MILKING EQUIPMENT INSTALLER MANUAL

2024 REVISION



WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION



MILKING EQUIPMENT INSTALLER MANUAL

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DFS Food & Dairy Specialist Areas

EHS Supervisor: Michelle Steinmetz, (715) 401-1393, <u>Michelle.Steinmetz@wisconsin.gov</u> **General Technical Specialist Email**: <u>DATCPTechnicalSpecialists@wisconsin.gov</u>

Wisconsin Department of Agriculture, Trade, and Consumer Protection



DRY-GUD-011	Dairy
Revision: 1.0	Requirements for Milking Equipment Plans
Approved: March 23 2022	Wisc. Stat. 93.06 (1w) and Wis. Admin. Code ATCP 65.14(6)(a)

SUBJECT: Requirements for Milking Equipment Plans

Scope

Before installing, reconstructing, or extensively altering a bulk tank, milking system, milk handling system, milkhouse, milking parlor, or dairy farm water supply system, the installer shall, on behalf of the milk producer, submit plans to DATCP. DATCP shall charge a fee to recover costs for providing the review service and shall return the plans, together with any comments or objections, within 14 days after the plans are received.

Definitions

Automated milking installation or AMI – a robotic milking system that identifies, prepares and milks lactating animals; detects and segregates abnormal milk; and automatically cleans and sanitizes all milk contact surfaces, at least once daily and after the segregation of abnormal milk, such that normal milk is not adulterated.

Bulk tank - a permanent or semi-permanent tank, container, or silo used to receive, cool, or store bulk quantities of milk on a dairy farm. "Bulk tank" does not include milk cans.

C-I-P - clean-in-place, which is the process by which equipment is cleaned and sanitized without being disassembled and by the mechanical circulation of cleaning and sanitizing solutions onto interior milk and dairy product contact surfaces.

DATCP - The Department of Agriculture, Trade and Consumer Protection

Equipment - an implement, vessel, machine, or apparatus, other than a utensil, that has one or more milk contact surfaces that is used to draw milk from milking animals or to transport, hold, handle, cool, or store milk on a dairy farm.

Milking and milk handling system - an automated system and all components of that system used to draw milk from milking animals or to transport milk to a bulk tank or other container on a dairy farm. Milking and milk handling system includes C-I-P milking equipment and C-I-P milk pipelines.

Guidance

Complete the Application for Milk Handling Equipment and Facility Construction (F-fd-31), any supplemental applications, and follow submission instructions provided on the application. Every application must include a drawing and any required supporting documentation. Plan reviews are based

on Wisconsin regulations and standards in effect at the time of the review. Only plans that are complete and legible will be reviewed.

Examples of installations/modifications which require a review:

- Pipeline system installation (new or used systems)
- Pipeline system or component modifications to any of the following:
 - Size of milkline or main vacuum line
 - Length of milkline
 - o Size or number of receiver jar inlets
 - o Number of pipeline slopes
 - Number of milker units
 - Number of milker units per milkline slope
 - CFM of vacuum needed
 - Size of vacuum pump if CFM is less than previously installed
- Bulk tank installation (new or used tanks)
- Milk pre-cooling equipment installations (new or used)
- Direct tanker milking operations
- In-line sampler
- AMI (automated milking installation)
- Milkhouse, new or modifications
- Milking parlors, new or modifications
- Water systems, new or updated systems for milk house or parlor
- On demand or tankless water heaters

Contacts

Dairy Technical Specialists - <u>DATCPTechnicalSpecialists@wisconsin.gov</u>

References

F-fd-31 Application for Milk Handling Equipment and Facility Construction

F-fd-258 Supplemental Application for Direct Tanker Milking Operations

F-fd-344 Supplemental Application for Automatic Milking Installation (AMI)

F-fd-59 Application for Approval of the Installation of an Aseptic In-line Milk Sampler

Wisconsin Administrative Code ATCP 65

Wisconsin Statute 93.06 (1w)

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Update D-fd-039 to GUD format. Added "Scope", "Definitions", "Contacts", and "References". Added/changed language in "Guidance".	March 23 2022

Approval

3/23/2022 9:34 AM	Task Completed	Anderson, Timothy P	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
3/23/2022 9:45 AM	Task Completed	Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved	Approved by Stoner, Steve K

DFRS-BFRB-028 (rev. 02/24)



Wisconsin Department of Agriculture, Trade and Consumer Protection Division of Food and Recreational Safety

Application for Milk Handling Equipment and Facility Construction

Wis. Stat. § 93.07(2) and Wis. Admin. Code § ATCP 65.14(6)

Mail To: DATCP 718 W Clairemont Ave Ste 128, Eau Claire, WI 54701 Make Checks Payable To: DATCP

- ATCP 65.14(6) requires installers to submit plans for review before installing, reconstructing, or extensively altering a bulk tank, milking system, milk handling system, milkhouse, milking parlor, or dairy farm water system.
- Submit application with \$25 fee to the address above. Fee must accompany the completed application or plans will not be reviewed. Failure to complete the application is subject to enforcement action under Wis. Stat. ch. 97 and Wis. Admin. Code ch. ATCP 65.
- Drawings, plans or supplemental applications may be sent to the address above or to <u>datcpdfsplanreview@wisconsin.gov</u> with the producer's name in the email subject line.
- Only complete and legible plans will be reviewed.
- Plan reviews are based on current Wisconsin regulations and standards.
- Future modifications may be required as regulations and standards are updated.

MILKING ANIMAL								
Cow	🗌 Goat		She	ер	Other - Please List:			
EQUIPME	EQUIPMENT INSTALLATION						Modification	
TYPE OF	EQUIPMEN	IT						
🗌 Bulk Ta	ank		[🗌 Ca	an Milk		Precooler	
Pipeline	e Milker		I	🗆 Sp	outnik/Ste	ep Saver	🗌 Silo	
Direct -	Fanker		(Re	equire	s Supplen	nental Applicatior	n for Direct Tanker F-fd-258)	
Robotic	c Milking Sy	stem	A)	MI)	(Require	s Supplemental /	Application for AMI F-fd-344)	
Manufactu	rer of AMI(s):				Number of AM	1l's installed:	
Dairy F	Dairy Farm Water System – Alternative Water Heating System							
In-Line	In-Line Sampler – Manufacturer (Requires Supplemental Application for Inline Samplers (DFRS-BFRB-001)					lemental Application for Inline S-BFRB-001)		
☐ Other – explain								
NOTE: Imme producer and compliance w	diately after ins the departmer /ith the constru	stalling nt a co ction s	or n py of tand	nodifyii f the si lards o	ng any syst gned Certifi f <i>Wis. Admi</i>	em listed above, the cation of Installation in. Code ch. ATCP	e installer shall provide to the milk n Completion which certifies 65.	

FACILITY CONSTRUCTION New Modification							
TYPE OF FACILITY							
Stanchion Barn	🗌 Milkh	ouse			Milking Parlor		
Swing Parlor	🗌 Flat E	Barn F	Parlor		Rotary Pa	arlor	
Open Air Parlor	Subw	/ay/Tu	Innel		Nater Su	pply System	
INSTALLER INFORMATION	– Please	Print	Clearly	<u> </u>			
LEGAL NAME OF APPLICANT:							
EMAIL			PHONE NUMBER	-			
MAILING STREET	CITY				STATE	ZIP	
INSTALLER'S SIGNATURE					DATE:		
DAIRY PLANT INFORMATIO	N						
DAIRY PLANT NAME:	PLANT NU	MBER		PAT	PATRON NUMBER:		
PRODUCER INFORMATION							
PRODUCER LEGAL NAME				РНО ('HONE NUMBER) -		
FARM NAME/DOING BUSINESS AS	: (DBA)			•			
MAILING ADDRESS							
PHYSICAL STREET (If different from	above)	CITY			STATE	ZIP	
COUNTY NAME:	TOWN NA	ME:		SEC	TION NUM	BER:	
PRODUCERS SIGNATURE DATE							
DATCP USE ONLY							
PAYMENT RECEIVED 700	0-G3						
REVIEWER:					ATE		
COMMENTS:				C	DATE ST	AMP::	

INSTRUCTIONS: Complete all blanks applicable to this installation. This application must be accompanied by a detailed legible drawing of									
1 Bulk Milk Tank & Distances 6 High Point 11 Pineline Inspection Port 16 Wash Manifold 21 Air Blow									
2 Double Wash Vats	7 Vacuum Test Port	12 Milk Precooler		17. Pressure Tank		22	2 Air Filter		
3 CIP Pipeline Vat	8 Air Injector	13 Filter		18. Reclaimed Water Tank		23	3 Vacuum Moistu	re Tran/Drains	
4 Hand Wash Sink	9 Receiver Group	14 Vacuum Pump		19 Ba	ckflow Prev	vention Devic	ze 24	1 Jetter Line/Cun	
5 Floor Drain	10 Weigh Jars	15. Wash Flow		20 Air	Gan Conn		25		
		15. Wash 1 10W		20. All		lection	20	5. Lights	
A. MILKLINE									
1. Material(s)	7	7. Percent slope				□.8% (1 i	inch/10) feet)	
2. Diameter			et)			 1.2% (1	.inch/1	10 feet)	
3. Length			et)			2.0% (2	1 ¹ / ₂ inch	n/10 feet)	
4. Welded Gaskete	d 5	5. Number of Units:				6. Max Uni	ts per	Slope:	
8. High Line Low Lin	ne g	9. Max Height from Co	w Platfo	orm:		10. Units w	/ashed	in 🗌 Parlor 🗌	Milkhouse
B. MILK RECEIVER						I			
1. Number of Receiver Inle	ets	Size of Receiver Milk I	nlet(s)			Size of Red	ceiver '	Vacuum Inlet	
2. Located in a Pit? TY	ES 🗆 NO		Locate	d in a N	Mini-Milkh	iouse?	YES		
C. OTHER SYSTEM C	OMPONENTS WI	TH VACUUM REQ	UIREME	ENTS	(FILL IN	THOSE T	НАТ	APPLY)	
ITEM		QUA	NTITY		(ADDITIO	NAL V	ACUUM REQU	
D. VACUUM SYSTEM	AND AIR SUPPL	Y				<u> </u>			
1. Main Airline Ma	aterial:	-				Diameter:		Lenath:	
2. Pulsator Line Ma	aterial:					Diameter:		Length:	
3 Automatic Drains in Pul	sator Lines							g	
4 Vacuum Pump(s): Bra	and:		Model(s):				Motor hp:	
5. Total Vac Pump Capaci	itv:		CEM/A	ASME :	at Normal	Operating	levelo	of [.]	In Ha
6 Air Supply: Minimur	n psia:		01111	Mic	ron Filtrat	tion I evel:			<u></u>
7 Other (specify)	n poig.			11110					
F. MILK COOLING AN	ID STORAGE SY	STEM							
1 Pre-Cooler Plate			Backflo	w Prev	vention [.]		Othe	r.	
Number of sections in r	late cooler.		Does e	ach se	ection free	elv drain:] YES		
Type of coolant preserv	vative used:		11001104	atou g	190010				
2. Bulk Milk Tank or silo	Brand	Model:			Capacity	Ľ	Date o	of Manufacture	
Bulk Milk Tank or silo	Brand	Model:			Capacity	,. /:	Date o	of Manufacture	
Bulk tank temperature	recorder provided? ((Required on tanks ma	anufactu	red afte	r 1/1/200)())()	Bate		
Type: Chart: Computer:									
3. Type of cleaning:									
4. Distances from bulk milk tank to walks ceiling and equipment provided on plan: VES VIO									
1. Water heating system adequate for all milking: YES NO Capacity:									
2. On-demand or continuous flow hot water systems:									
Total hot water usage requirements and system capacity provided: VES NO									
3. For Alternative Water Heating Systems- Heating Media Used: Additional Additives Used:									
G. PHYSICAL SEPARATION OF WASH SYSTEM LINES FROM:									
1. Milking System During Milking: YES 2 Milk Tank During Milk Storage: YES									
H. FACILITY CONSTRUCTION FINISH SCHEDULES									
1. Complete wall floor ceiling and lighting schedule provided for new facility construction or modification:									
2. Has a sanitary waste ne	ermit been applied for								

F-fd-329 (Rev. 3/16)



DFRS-BFRB-062.docx (rev. 11/2023)



Wisconsin Department of Agriculture, Trade and Consumer Protection Division of Food and Recreational Safety

Supplemental Application for **Direct Tanker Milking Operations**

Wis. Stat. § 97.22, *Wis. Admin. Code* § *ATCP* 65.14(6)

Mail To: WDATCP 718 W Clairemont Ave Ste 128, Eau Claire, WI 54701

- DATCP requires the installer, on behalf of the milk producer, to submit this supplemental application whenever a mobile tanker will be used to store milk on the farm. Failure to complete this form is subject to enforcement action under Wis. Stat. ch. 97 and Wis. Admin. Code ch. ATCP 65.
- This form must be submitted in conjunction with the "Application for Milk Handling Equipment", (F-fd-31) to the address above or by email to datcpdfsplanreview@wisconsin.gov.
- Only plans that are complete and legible will be reviewed.
- Coordinate the completion of this form between the installer, producer, milk hauler, and dairy plant to assure accurate information is provided.
- Plan reviews are based on current Wisconsin regulations and standards. •
- Future modifications may be required as regulations and standards are updated. ٠
- Personally identifiable information you provide may be used for purposes other than • that for which it was collected. Wis. Stat. §15.04 (1)(m).

Please Print Clearly and Check Spelling

INSTRUCTIONS

Complete all blanks applicable to this installation. This application must be accompanied by a detailed legible drawing of all the components pertaining to the Direct Ship. Use the numbers below and the numbers from the "Application for Milk Handling Equipment and Facility Construction" F-fd-31 to identify all components.

26. Cooling Media Sample Port	32. Sanitizing Station
27. Tanker Valve Drip Pan	33. Check Valve(s)
28. Indicating Thermometer	34. Milk Transfer Hose(s)
29. Recording Thermometer Probe	35. Drip Sampler
30. Recording Device	36. Tanker Dock Seal(s)
31. Milk Line Air Blow Fitting	37. Hard Surfaced Tanker Pad

FIRM NAME	DATE	
CITY		STATE
PART I - EXTERIOR COND	ITIONS	
Direct Tanker Equipment Inst	allation (check one)	
Tanker Parking Surface 🛛 🛛	Concrete 🗌 Asphalt 🗌	Other
Extends Under Full Length of	Tanker 🗌 YES 🗌 NO	lf NO, explain below
Surface Sloped to Drain 🔲 Y	′ES ☐ NO ☐ Other: Ex	plain below
Tanker Connection to Milkhou	use ☐ Enclosed Intake	Other: Explain below
PART J - TANKERS(s)		
Direct Tanker Equipment Inst	allation (check one)	
Type of tanker used 🔲 Over	the Road 🛛 Hose Cabine	et
Who Owns the Milk Tanker(s)	🗌 Dairy Plant 🔄 Produ	icer 🗌 Hauler
Provide Milk Tanker Permit N	umbers(s)	
(1)	(2)	
(3)	(4)	
(5)	(6)	
Tanker(s) Meet 3A Sanitary Co	onstruction Standards	
Tanker Modified to Fit Tight to	o Milkhouse 🗌 YES	□ NO
Tanker Access Ports Sealable		

Tanker Access Ports Sealable T YES

PRODUCER INFORMATION

PART K - INTERMEDIATE COOLING	PART M – WEIGHING AND SAMPLING OF THE MILK		
Milk Cooling Method Heat Exchanger Bulk Tank	Performed By a Licensed Weigher and Sampler		
Provide all pertinent information in Section E of application for <i>Milk</i> Handling Equipment and Facility Construction F-fd 31	Yes No Department Approved Facility for Receipt of Direct Ship Tankers Ves No		
Temperature Monitoring Chart Electronic	Milk Agitation Location		
Enclose copy of the chart or chart specifications.	Tanker Storage/Silo		
PART L - FARM PROCEDURES	(may not be commingled with other milk)		
How Many Milkings to Fill Tanker	Method of Milk Agitation Mechanical Air Other		
How Long Will Tanker Remain on Farm hrs.	Location of Official Sampling Farm Dairy Plant		
Where Is the Point of Sale for the Milk	Type of Official Sampling		
The Farm The Dairy Plant			
Is the Milking System Cleaned After Every Use Yes No	Aditation protocol established in compliance with Standard		
Transfer Hose, Check Valve, Exposed Interior Portion of Tanker Valve, Washed and Sanitized After Each Milking	Methods for the Examination of Dairy Products, Section 3.042 B. Test results on file at the receiving dairy plant.		
Below is an example drawing of a Direct Shi	p operation added to an existing milking operation.		
17 14 7 26 3 Glycol Tank 2 Physical Break 4 During Milking	$\begin{array}{c c} 29\\ \hline 12\\ 34\\ 32\\ \hline 34\\ 34\\ \hline 36\\ \hline Direction\\ of Slope\\ 5\\ \hline \end{array}$		

DRY-PIN-016	Dairy
Revision: 1.0	Direct Ship Milk Producer Requirements
Approved: 01/03/2023	Related Document Series: N/A

Purpose – This PIN is to assist Dairy Sanitarians with direct ship milk producers.

Scope – This applies to Division of Food and Recreational Safety (DFRS) Dairy Program staff.

Definitions – Direct shipment of milk; when a bulk milk tanker is directly attached to the milkhouse with an access port that can be sealed and delivered directly to the dairy plant.



Procedure

Plan Review

- 1) Facility and equipment comply with ATCP 65, 3A Standards, and this policy.
- 2) Submit the following forms to the Department prior to installation or modification:
 - a. Application for Milk Handling Equipment and Facility Installation (F-Fd-31)
 - b. Supplemental Application for Direct Tanker Milking Operations (F-Fd-258)

Construction

- 1) Tanker shall be parked on a pad of concrete or equally impervious material.
 - a. Parking surface shall be large enough to accommodate a parked tanker (rear to support legs).
 - b. Parking surface shall be sloped to drain away from the milkhouse and kept clean.
- 2) All permanent pipelines end in the milkhouse.
- 3) A protected opening (dock seal) into the milkhouse shall be provided or an enclosed intake meeting milkhouse requirements.
 - a. Dock seal shall be tight-fitting, constructed of non-absorbent washable material and be properly sized to facilitate access to the tanker outlet valve.

Tankers

- 1) Permitted and shall meet 3-A standards for construction.
 - a. Tanker exterior modifications to fit the dock seal must meet sanitary standards.
- 2) Outlet valve is close coupled and protected with an effective dust cover or located within a pump/hose cabinet.
- 3) Have an access port that can be sealed. Access ports and fill sensors (if present) are sealed by the dairy plant after washing and shall remain sealed until received at the plant for sampling and unloading.

Cooling

- 1) Meets cooling requirements listed in ATCP 65.18(4) and 3-A Standards.
- 2) Cool all milk to 45°F or lower before the milk enters the tanker.
- 3) A temperature recording device that records milk temperatures downstream from the cooling device.
 - a. Temperature recording device probe shall be mounted in a well in the milk pipeline.
 - b. If milk is cooled in a bulk tank the probe may be mounted in the bulk tank.
- 4) Recirculating water system requirements ATCP 65.10(6):
 - a. Originates from a safe source that meets microbiological standards
 - b. Protected from contamination.
 - c. Coolant is non-toxic or pharmaceutical grade propylene glycol meeting 21 CFR 184.1666 and does not contain coliform bacteria.
 - d. Dairy plant samples cooling media for coliform every six months, test results are available for review.
- 5) Bulk milk cooling device and transport hose shall be cleaned between milkings or at least once every 24 hours if continuously milking.

Indicating Thermometer

- 1) Installed as close as possible to the temperature recording device, to verify recording temperatures.
- 2) Installed in a sanitary manner, no threads in contact with milk.
- 3) A digital display of the chart recorder or other similarly accurate temperature device is acceptable for conducting this accuracy verification.
- 4) Thermometers must be verified for accuracy within ± 2°F every six months by a representative of the dairy plant and properly documented in a log or on the chart.

Temperature Recording Device

- 1) Comply with ATCP 65.16(3) and 3-A Standards.
- 2) Chart graduated in not more than 2°F divisions at temperatures below 100°F.
- 3) Charts shall be capable of recording temperatures between 40°F to 180°F.
- 4) Charts have at least one time span division per hour.
- 5) Chart makes one revolution in not more than 7 days.

Electronic Records

Shall have easily understood temperature graduations and time span identification, electronic records are maintained for at least 6 months and the temperature recording device must be verified for accuracy within ± 2°F every six months by the dairy plant field representative and properly documented. A written procedure shall be available for a Division representative to use to properly review the records. The written procedure shall be acceptable to the division and shall meet the requirements of the PMO Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12 and available to a division representative upon request. ATCP65.16(3)(e)

Farm Procedures

- 1) Unlimited milking periods to fill the tanker.
 - a) ATCP 82.10 requires that if milk from a grade A/B dairy farm violates an applicable standard under ATCP 65.70 on any single test, milk from that farm shall be collected at least once every 2 days until a subsequent test shows the milk from that farm no longer violates the standard.
- 2) Hose attachment
 - a. Milk transfer hose attached within the milkhouse.
 - b. Sanitary drip pan shall be under the outlet valve to capture spilled milk and sanitizing solutions and drain them back into the milkhouse.
 - c. Sanitize the tanker outlet valve if unclean prior to connecting the milk transfer line.
 - d. Store all pipeline and hose caps in the milkhouse during milking operations.
 - e. Provide a sanitary and seamless milk transfer hose intended for CIP cleaning (no hose clamps).
 - f. Transfer hose stored to drain with open ends protected from contamination.
- 3) Point of Sale Ownership Clarification
 - a. Point of sale takes place when the dairy plant accepts the tanker of milk.
 - b. Regardless of point of sale issues, all milk that has confirmed positive for drug residue shall be removed from the human food chain, disposed of and immediately reported to the department. The plant shall maintain a disposal record for each affected tanker. A positive drug residue investigation shall be conducted on all positive loads.

Weighing Methods

- 1) Establish a weighing method that meets the criteria outlined in ATCP 92, Wis. Adm. Code, (Weights and Measures).
- 2) Return a duplicate copy of the weight collection record to the farm for posting in the milkhouse and available for inspection.

References

ATCP 65 ATCP 82 ATCP 92 21CFR 184.1666 PMO Appendix H., IV

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Farm Policy Team	New Document	01/03/2023

Approval

Tasks

This workflow created the following tasks. You can also view them in Approval (New) Tasks.

- Assigned To Title
 - Sprecker, Troy Please approve DRY-PIN-XXX Direct Tanker Shipping Requirement

Due Date	Status	Related Content	Outcome
12/30/2022	Completed	DRY-PIN-XXX Direct Tanker Shipping Requirement	Approved



Wisconsin Department of Agriculture, Trade and Consumer Protection Division of Food and Recreational Safety P.O. Box 8911 Madison WI 53708-8911

Supplemental Application for Automatic Milking Installation (AMI)

Wis. Stats. s.97.22, s. ATCP 65.14(6)

When submitting the F-fd-31 Milking Equipment Installation Application, please include this form and the four supporting documents listed below:

- 1. Layout Plan
- 2. Teat Prep Protocol FDA Approved
- 3. Block-Bleed-Block Valve Testing Protocol
- 4. Abnormal Milk Detection Verification Procedure

PRODUCER NAME:

CITY, STATE:	DATE:
AMI MANUFACTURER:	NUMBER OF AMIs:

This application allows the filer to explain how the proposed installation complies with Appendix Q of the Grade "A" PMO and current Department rules. Please attach plans showing locations of AMIs, plumbing devices, milk storage, ventilation, lighting and milk handing equipment along with operator and livestock traffic flow. Attach diagrams and testing procedures of all product and CIP isolation valves.

<u>Note</u>: for additional information refer to the Appendix Q of the PMO; the numbering of this application corresponds to Appendix Q. Future modifications to the AMI milking system or the addition of one or more AMIs require resubmission of this application.

Please note any unique items, design functions or procedures used in this installation, such as underground subway, reclaim water system, etc.

ITEM 1. ABNORMAL MILK

Describe the method of separating milk from animals producing milk with abnormalities or animals treated with antibiotics. Refer to Item 14 for proper separation of milking equipment in contact with abnormal or antibiotic treated milk and Items 10 and 11 for cleaning and sanitizing milking equipment following contact with abnormal or antibiotic treated milk. Describe the method(s) of abnormal milk detection and exclusion. Please identify the location of abnormal milk storage, if used.

ITEM 2. MILKING BARN, STABLE OR PARLOR - CLEANLINESS

Provide a wall, floor, ceiling cleaning schedule for the AMI milking room. Describe the method of clean access for inspection and maintenance personnel. If access to the AMI room requires personnel to walk through animal traffic/housing areas, a method to clean footwear shall be provided and described. Explain method(s) provided at the AMI room.

ITEM 3. MILKING BARN, STABLE OR PARLOR – CLEANLINESS

Describe the method and frequency for cleaning the AMI milker box and surrounding area. Describe the Automatic Cow Platform wash frequency and water source if applicable.

ITEM 9. UTENSILS AND EQUIPMENT – CONSTRUCTION

Provide documentation on any prototype equipment used for the AMI. All milking equipment shall meet sanitary construction in respect to fit and finish. Indicate whether any AMI components are manually washed in the AMI milker box. Indicate where the in-line milk filter is located.

ITEMS 10 & 11. UTENSILS AND EQUIPMENT - CLEANING AND SANITIZATION

Provide the cleaning method for the AMI following abnormal milk detection. Provide the method and cleaning/sanitization frequency of the AMI, main milk lines, supporting equipment (buffer tank, receive-all, etc.) and bulk milk tank.

ITEM 12. UTENSILS AND EQUIPMENT – STORAGE

Provide documentation of the AMI positive air ventilation system, to include air source, air filtration (if any) and ventilation system operating criteria. Provide information on the type of flooring used in the cattle staging area, i.e., slotted floor over manure, solid concrete floor. Explain how the milk lines from the AMI to milk storage are supported.

ITEM 13. MILKING - FLANKS. UDDERS AND TEATS
Provide documentation of the National Conference on Interstate Milk Shipments (NCIMS) M-I Memorandum of acceptance for the
toot recording system. Describe your after milling Past Din system if used
teat prephing system. Describe your after minking Post Dip system in used.
Describe the AMI flush/rinse cycle of the inflations between the milking of normal cows, if applicable.
ITEM 14 PROTECTION FROM CONTAMINATION
Provide information describing the separation between: 1) Cleaning/sanitizing solutions and milk intended for sale, and
2) Milk with abnormalities and milk intended for sale. Provide the valve documentation and testing protocols for all inter-wired
block-bleed-block fail-safe valve systems.
ITEM 18 RAW MILK COOLING
For Alls the second s
For Aivis the raw milk must be cooled following current standards. Explain the milk cooling and storage process.
Check applicable equipment used in this system and show location on the plan layout.
Buffer Tank Single Milk Filter Bulk Milk Tank(s) Temperature Recording Device

Personal information you provide may be used for purposes other than that for which it was originally collected s. 15.04(1)(m), Wis. Stats.



Wisconsin Department of Agriculture, Trade and Consumer Protection

Division of Food and Recreational Safety

PO Box 8911, Madison, WI 53708-8911

Phone: (608) 224-4720 Fax (608) 224-4710

ATCP 65.14(5)(c)

Verification Testing for Automatic Milking Installation Commissioning

Please type or print. E-mail completed submission form to:

The assigned Dairy Technical Specialist OR E-mail to <u>DATCPDFSPlanReview@wisconsin.gov</u>

PRODUCER NAME:						
DBA/FARM NAME:					DE A 🗌 GRA	DE B
PRODUCER PHYSICAL LOCATION:	CITY:			1	STATE: ZIP	CODE:
PRODUCER EMAIL:					TELEPHONE:	
LEGAL NAME OF INSTALLATION COMPANY:						
INSTALLER MAILING ADDRESS:			CITY:		STATE: ZIP	CODE:
LEAD TECHNICIAN NAME and TITLE:		EMAIL:			TELEPHONE:	
NAME OF VERIFYING INDIVIDUAL:		DATE OF	VERIFICATION TESTING:		□ NEW INSTA □ MODIFICAT	LLATION ON
AMI MANUFACTURER:		NUMBER	OF UNITS:			
Submission Requirements: Pursuant to <u>Wis. Admin. Co</u> documents verification of the computerized programming	ode <u>§ ATCI</u> controls as	2 <u>65.14(5</u> s perform	<u>)c, and the 2019 PMO</u> ed by the installer or th	Appendix e AMI Man	H, this form ufacturer.	Checklist
The fail-safe valve system(s) provides separation between cleaning/sanitizing solutions and milk intended for sale, and thus functions as specified by the manufacturer's test procedure.						
The fail-safe valve system(s) provides separation between milk with abnormalities and milk intended for sale, and milk quality sampling devices are properly separated as specified in the manufacturer's test procedure.						
The fail-safe valve system(s) properly detects and diverts specified in the manufacturer's test procedures.	abnormal	milk and	cleans and sanitizes m	ilk contact	surfaces as	
The teat prep process is applied in accordance with the F	-DA approv	ed teat p	rep protocol.			
Copies of the following documents are present on the fail	in lor regula	atory revi	ew.			
Teat Pren Protocol						
Abnormal Milk Detection Verification Procedure:	s					
Copies of the most recent verification testing with	- h installer t	echniciar	signature (a copy of t	his sianed d	locument).	
Written procedure for verifying the effectiveness of the computer software and bardware						
Disclosure: With this submission, I certify completion of the verification procedures listed above. I certify that the information is accurate and fully represents the verification testing outcome of this AMI installation.						
SIGNATURE:					DATE:	
INTIALS OF DAIRY TECHNICAL SPECIALIST:	DATE:			DLETED: ONSITE RE		RESULTS:



DRY-GUD-002	Program: Dairy
Revision: 1.0	Document Name: Industry AMI Verification
Approved: 09Apr2021	Wisc. Stat. and/or Wis. Admin. Code: <u>ATCP 65.14(5)(c)</u>

SUBJECT: Guidance for use of *F-fd-45*, <u>Verification Testing for Automatic Milking Installation</u> <u>Commissioning</u>

Scope

The purpose of this document is to provide guidance to the dairy industry, specifically Automatic Milking Installation (AMI) installers and/or manufacturers working to complete the DATCP form *F-fd-45, Verification Testing for Automatic Milking Installation Commissioning* following the installation and verification testing of an AMI unit(s).

Definitions

- DATCP Wisconsin Department of Agriculture, Trade and Consumer Protection
- AMI Automatic Milking Installation
- DBA Doing Business As
- DTS Dairy Technical Specialist
- Lead technician An employee of the installation company who oversees the equipment design, facility construction/layout and installation of the AMI unit(s).
- Verifying individual An employee of the installation company who physically conducts the onsite verification testing.

Guidance

- 1. Complete the Producer Contact Information portion of the form. This shall include providing all of the following:
 - a. The producer's first and last name.
 - b. The DBA or Legal name of the producer's farm/business.
 - c. The physical address of the farm/business location where the AMI unit is installed.
 - This includes the city, state and zip code.
 - d. The current or intended permit or license status of the milk producer Grade A or Grade B.
 - e. The producer's email address.
 - f. The producer's phone number.

- 2. Complete the Installer's Contact Information portion of the form. This shall include providing all of the following:
 - a. The legal name of the company installing the AMI unit(s).
 - b. The installer's mailing address.
 - This includes city, state and zip code.
 - c. The lead technician's first and last name who is overseeing the AMI installation.
 - Include lead technician's position title (ex. Lead Supervisor, Foreman, Lead Engineer).
 - d. The lead technician's email address.
 - e. The lead technician's phone number.
- 3. Complete the remaining portion of the form which details information specific to the AMI unit(s) and the verification activities. This shall include providing all of the following:
 - a. The first and last name of the individual conducting the verification testing activity.
 - b. The date(s) the verification testing was completed.
 - c. Identifying the type of work completed, new installation or a modification to a unit(s) currently in service. For a retrofit of a used AMI unit(s) please indicate new installation.
 - d. The name of the AMI unit(s) manufacturer.
 - e. The number of AMI unit(s) being installed at this farm.
 - f. Within the remaining checklist (10 items) you will find a statement with a correlating checkbox.
 - If a box is checked, this indicates that the correlating statement is true.
 Example 1 If the testing of the fail-safe valve system (block-bleed-block valves) provides separation between cleaning/sanitizing solution and milk according to the manufacturer's procedures, the correlating box shall be checked.
 - Example 2 If the box is not checked, this indicates the correlating statement is not true or that it was not completed. This results in the assigned DTS marking the "Accepted Results" box as NO and the producer would not be allowed to begin or continue production.
- 4. Once all of the necessary information has been provided in the sections described above, the form is signed and dated by the individual taking responsibility for the accuracy of the verification testing in conformance with the manufacturer's testing procedures. An electronic signature is sufficient.
- 5. Email the completed form to <u>DATCPDFSPlanReview@wisconsin.gov</u>.

Contacts

- Dairy Technical Specialist Team
 - o <u>DATCPTechnicalSpecialists@wisconsin.gov</u>

- DATCP Dairy Services Office Eau Claire, WI
 - o <u>DATCPecdairy@wisconsin.gov</u>

References

- ATCP 65.14(6)a-c- Review of Plans language specific to the necessity for farm plan reviews and the responsibility of the department to respond.
- ATCP 65.14(5)(c)1-6 Milking Equipment language specific to the installation of AMI units.

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Dairy Program Staff	New Document.	09Apr2021

Approval

4/8/2021 12:51 PM	Task Completed	Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments:	Approved by Stoner, Steve K
4/8/2021 12:51 PM	Task Created	🗌 Koss, Rebekah R	Task created for Anderson, Timothy P. Due by: 4/9/2021 12:00:00 AM	
4/8/2021 1:23 PM	Task Completed	 Anderson, Timothy P 	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
4/8/2021 1:23 PM	Task Created	🗆 Koss, Rebekah R	Task created for Sprecker, Troy S. Due by: 4/9/2021 12:00:00 AM	
4/9/2021 10:52 AM	Task Completed	Sprecker, Troy S	Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments: please just use DATCP vs. WDATCP.	Approved by Sprecker, Troy S



Wisconsin Department of Agriculture, Trade and Consumer Protection Division of Food and Recreational Safety 2811 Agriculture Drive, PO Box 8911, Madison, WI 53708-8911 Phone: (608) 224-4872 Fax: (608) 224-4871

Application for Approval of the Installation of an Aseptic In-line Milk Sampler

(Wis. Admin. Code § ATCP 82.12)

Mail To: WDATCP 718 W Clairemont Ave, Ste 128, Eau Claire, WI 54701

Email To: datcpdfsplanreview@wisconsin.gov

Wis. Admin. Code § ATCP 82.12 requires department approval for alternative bulk milk sampling procedures.

Submit this application whenever an in-line sampler is used to sample milk for regulatory purposes under <u>ATCP 65</u> <u>Subchapter V – Safety and Quality Standards</u>.

Milk producers shall submit this form in conjunction with the "Application for Milk Handling Equipment and Facility Construction" (F-fd-31) and/or "Supplemental Application for Direct Tanker Milking Operations" (F-fd-258). These applications can be found on the Milk Producer Resources page at <u>datcp.wi.gov</u>. Coordinate the completion of this form among the sampling equipment manufacturer, installer, milk hauler, and dairy plant to ensure complete and accurate information is provided.

Refer to <u>M-I-06-6 "Application and Standard Operating Procedures (SOPs) For the Installation and Use of Approved In-Line Samplers (ISO-LOK, Anderson Instruments and QMI) for the Collection of Dairy Farm Samples from Direct Load Tankers" (https://gams.fda.gov/active/M-I-06-6_FINAL.pdf) for guidance.
</u>

Dairy plant operators shall submit this form in coordination with the sampling equipment manufacturer to ensure complete and accurate information is provided.

- Only plans that are complete and legible will be reviewed.
- The review of your plan and/or application is based on Wisconsin regulations and standards in effect at this time.
- Modification of this installation may be required at some future date as regulations and standards are updated.
- The equipment construction, maintenance and cleaning of the in-line sampler, and in-line sampler usage must meet the requirements of <u>ATCP 65.12</u>.

PRODUCER INFORMATION (when applicable) – Please Print Clearly					
PRODUCER NAME		PHONE			
		() -			
MAILING ADDRESS STREET	CITY		STATE	ZIP	
PRODUCER EMAIL					
		DATE			
PRODUCER SIGNATURE		DATE			
DAIDY DI ANT INFORMATION Diagon Brint	Clearly				
DAIRT PLANT INFORMATION - Please Plint	Cleany	1			
DAIRY PLANT		DAIRY PLANT NUMBER			
		-		[
MAILING ADDRESS STREET	CITY		SOTATE	ZIP	
		EMAIL			
SIGNATURE		DATE			
		27.1.2			
IN-LINE SAMPLER MANUFACTURER					
Anderson Other: (<i>Note: Requires</i>					

CONTINUE ON REVERSE SIDE

GENERAL REQUIREMENTS					
Size of Milk Tanker:		Pounds of Milk/Day Direct L	Pounds of Milk/Day Direct Loaded:		
Time to Fill Tanker:		Number of Milkings to Fill th	ne Tanker:		
Sampling Rate: n	Rate: mL/100 lbs. or mL/10 gal or oz. /100 lbs. or oz. /10 gal.				
Flow Rate: Ibs./h	our or gal/hour				
Sample End Volume De	sired:				
Sample Container Manu	facturer:				
Sample Container Mode	l number:				
Material Type:		Sample Container Size:	🗌 mL 📃 oz. or 🗌 gal		
QMI Only Needle Size: Gauge RPM of Sampling Pump					
SAMPLER SYSTEM DE	ESIGN				
Sampler Location:					
Sample Collection Locat	ion:				
Refrigerator(s):					
Sample Collection:	Туре:	Make	Size (cu. ft.):		
Sample Storage:	Туре:	Make	Size (cu. ft.):		
Refrigerator Adequate Size to Maintain Sample(s) at Correct Temperature: YES NO					
Thermometers calibrated and tagged YES NO					
Location of the temperature devices:					
Temperature the refrigerator is maintained at:					
Refrigerator only used to store milk, media & reagents: YES NO					

NOTE: Refrigerator, monitoring, upkeep and operation records shall be retained for six (6) months. Refrigerator cannot store food or drink. The temperature of the refrigerator must be recorded daily in the AM and PM from two temperature measuring devices with bulbs or sensor/probe immersed in liquid in sealed containers. Thermometers must be calibrated annually and tagged.

SYSTEM OPERATION				
List the Bulk Milk Weigher and Samplers (BMWS	List the Bulk Milk Weigher and Samplers (BMWS) Trained to Operate the In-line Sampler:			
BMWS Name	BMWS License #			
SOP for the In-Line Sampler Being Used on File at the Facility: 🗌 YES 🔄 NO				
SOP for the In-Line Sampler Provided with Application [] YES (Review cannot be completed without the SOP)				

Personal information you provide may be used for purposes other than that for which it was originally collected (Wis. Stat. § 15.04(1))



DRY-GUD-020	Dairy
Revision: 1.0	Bulk Tank Installation Requirements
Approved: 05/14/2024	Wisc. Stat. and/or Wis. Admin. Code: N/A

SUBJECT: Bulk Tank Installation Requirements Fact Sheet

Scope: This document is to give Dairy Sanitarians guidance on what to look for when evaluating the installation of an on farm Bulk Milk Tank.

Definitions

3-A: A set of guidelines for sanitary design and construction of milking and milk handling systems that are set forth in the 3-A[®] Sanitary Standards for Farm Milk Cooling and Holding Tanks

Agitator: an apparatus used for stirring liquid milk.

Bulk tank: A permanent or semi-permanent tank, container, or silo used to receive, cool, or store bulk quantities of milk on a dairy farm. Bulk tank does not include milk cans.

Certificate of Completion: A document signed by the equipment installer stating the bulk milk tank adheres to ATCP 65.

CIP: Means clean-in-place, which is the process by which equipment is cleaned and sanitized without being disassembled and by the mechanical circulation of cleaning and sanitizing solutions onto interior milk and dairy product contact surfaces.

Guidance

Administrative Requirements

- Fill out and submit the Milk Handling Equipment and Facility Construction Application F-fd-31 for review before installing the bulk tank.
 - The department will review the plans within 14 days and will issue review letter.
- The installer will fill out a Certificate of Completion which must be posted in the milkhouse for at least 12 months.

Location Requirements

- Bulk tank installed entirely in the milkhouse must have at least 24 inches of clearance from the ceiling and have adequate space around the sides to maintain cleanliness.
- Bulk tank that is bulk headed into the milkhouse must have all openings in the milkhouse and at least 24 inches of clearance from the ceiling and adequate space around the sides to maintain cleanliness.
 - Agitator seals located outside the milkhouse (this may mean the utility room as well) must be an approved weatherproof style.

Uncontrolled if Printed

• Bulk tank may not be located directly over a floor drain or below a vent.

Construction Requirements

- Acceptable with 3-A certification.
- Tanks without 3-A certification may be acceptable if:
 - The lining and milk contact surfaces are constructed of stainless steel or other materials which are equally smooth, nontoxic, stable, non-absorbent, corrosion resistant, and capable of withstanding cleaning and sanitizing treatment.
 - Milk contact surfaces must be accessible for inspection.
 - The tank must be self-draining, openings and covers must be self-draining and installed to prevent drainage into milk or milk contact surfaces.
- An indicating thermometer that has a range of at least 32°F to 80°F.
 - A temperature recording device approved by the division, if manufactured after January 1, 2000.
 - Note: See below for how to age bulk tanks.
- Agitation which will ensure homogeneity of all milk within 5 minutes for 1,500 gallons or less or within 10 minutes for tanks larger than 1,500 gallons or according to manufactures recommendation to ensure homogeneity.
- CIP tanks shall be designed so CIP solutions cannot enter the bulk tank while it contains milk.
- Must be capable of cooling milk to 50°F or less within 4 hours after the start of the first milking, and to 45°F or less within 2 hours after the end of milking. Blended milk from the first milking and later milkings must not exceed 50°F.

Temperature Recording Device

- Shall be capable of accurately recording temperatures between 40°F and 180°F.
- Recording chart must have graduations not less than 2° F at temperatures below 100° F and must have at least one time span division per hour. The circular chart must make one revolution in less than 7 days and shall be graduated for a maximum record of 7 days.
- The milk producer shall retain milk temperature records for at least 6 months and contain the following:
 - o Milk producer identification
 - Date of the record
 - Tank identification if there is more than one bulk tank on the dairy farm
 - Signature of the person who removed the temperature records
 - Any unusual occurrences related to milk temperature.
- Must be calibrated every 6 months and the record must be available for review.
- Electronic records need to have a written procedure for review and must be accessible for inspection.

How to Age a Bulk Tank

Bulk tanks manufactured after January 1, 2000 are identified by a serial number in the following ways:

- Alfa Laval/Universal: Serial number starts with 2 letters. If the first letter is an M, it is manufactured in 2000, N is 2001, O is 2002, etc. Such as "MX12345".
- **Boumatic/Dairy Kool:** Any serial number in sequence after "35638G" is made in 2000 or later. Serial number "35639G" is on the first 2000 tank.

- **Mueller:** Last two digits of the serial number followed by a letter is the year, such as "1234499D" is 1999 and "1624500A" is 2000.
- **Surge:** First two digits of the serial number is the year, such as "9912345" is 1999 and "0012363" is 2000.

Contacts

References

ATCP 65

3-A® Sanitary Standards for Farm Milk Cooling and Holding Tanks

3-A® Accepted Practices for Farm Milk Cooling and Storage Systems ATCP 65, Wisconsin Administrative Code

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	James Pikka	New Document	

Approval

Assigned To	Title	Due Date	Status	Related Content	Outcome
Sprecker, Troy S	Please approve Bulk Tank Installation Requirements Fact Sheet	5/17/2024	Completed	Bulk Tank Installation Requirements Fact Sheet DRAFT	Approved



DRY-IMO-002	Dairy
Revision: 2.0	Single Farm Pick-Up
Approved: 06Jul2021	Wis. Admin. Code(s) § ATCP 65 and ATCP 82

TO: Dairy Services Section Staff

FROM: Administrative Manager, Bureau of Food and Recreational Businesses

SUBJECT: Single Farm Pick-up

1.0 Purpose

This Interpretive Memo addresses a recent industry practice of storing milk in silos, large bulk tanks or multiple bulk tanks and loading the milk onto bulk milk tankers without following existing measurement and sampling procedures, and performing milk measurement and sampling upon receipt at a dairy plant. These practices are not currently permitted in Wisconsin Administrative Code chapters ATCP 65 and ATCP 82, not because they are inaccurate or inappropriate, but because they were not envisioned at the time these rules were written.

2.0 Scope

This memo is written in order to ensure that regulatory enforcement does not hinder growth and efficiency gains in Wisconsin's dairy industry, while still ensuring public health and the provision of accurate information for determining milk payments. Current rules were written assuming milk was stored on-farm in refrigerated bulk tanks or directly transferred from the milking system into a bulk milk tanker or other bulk transport container. This memo allows the transfer of milk from an on-farm silo or large bulk tank onto a bulk milk tanker. This memo recognizes that this system does not meet all the design, installation or operation criteria under ATCP 65.16 Wis. Adm. Code for bulk tanks and/or milking directly to a bulk transport container.

3.0 Definitions

3.1 "Single-farm milk pick-up" is defined as the one-time transfer of properly cooled milk originating from a single licensed milk producer's milking animals and stored in a bulk milk tank or silo, to a bulk milk tanker owned and/or operated by the same licensed milk producer or owned and/or operated by the producer's dairy plant or milk contractor, and the immediately transportation of that milk to the receiving dairy plant.

4.0 Interpretation

- 4.1 To accommodate evolving industry practices the Department proposes guidelines for "single -farm milk pick-up." These guidelines are based on the intent of the existing rules and will be considered for formal adoption the next time the Department undertakes rule revision. Other methods that comply with current regulatory requirements are not prohibited under this interpretive memo.
- 4.2 The bulk tank (silo) used for single-farm milk pick-up shall meet the following requirements:
 - 4.2.1 All bulk tank (silo) openings shall be located within the milkhouse.
 - 4.2.2 The bulk tank (silo) shall be provided with the following:
 - 4.2.2.1 An indicating thermometer with a range of at least 32° F. to 80° F.
 - 4.2.2.2 A temperature recording device meeting the requirements of ATCP 65.16(3), Wis. Adm. Code installed in the bulk tank (silo).
 - 4.2.3 All milk, vacuum and CIP lines associated with the bulk tank (silo) located outside the milkhouse shall be welded (no clamp fittings).
 - 4.2.4 All agitators located outside of the milkhouse shall be approved by the Division under ATCP 65.16(1) Wis. Adm. Code.
 - 4.2.5 Milk shall be cooled to 45°F or less before entering the bulk tank (silo) <u>or</u> the bulk tank (silo) shall be capable of meeting the cooling requirements of ATCP 65.16(4), Wis. Adm. Code.
 - 4.2.5.1 The milk producer may use a plate cooler, tube cooler or bulk tank to cool the milk.
 - 4.2.5.1.1 Coolant used in cooling devices shall comply with the requirements of s. ATCP 65.10 (6), Wis. Adm. Code.
 - 4.2.5.1.2 If a bulk tank is used for cooling, then the bulk tank shall be cleaned every 24 hours.
 - 4.2.5.2 When the silo is used for the final cooling of milk, documentation from the silo manufacturer indicating adequate milk cooling capacity shall be available on the farm to DATCP personnel at the time of inspection.
- 4.3 The bulk milk tanker shall be parked such that the distance between the back of the tanker and the milkhouse is minimized.
- 4.4 A bulk tank hose port and a 4ft. x 4ft.paved surface shall be provided that meet the requirements of. ATCP 65.08(3)(i), Wis. Adm. Code.
- 4.5 The bulk milk tanker shall be parked such that the distance between the back of the tanker and the milkhouse is minimized.
- 4.6 The milk hose connection for milk pick-up shall adhere to the requirements of ATCP 82.10(7), Wis. Adm. Code.
- 4.7 Partial removal of milk from the bulk tank (silo) during a single farm pick-up shall meet the requirements of both ATCP 82.10(11)(am), Wis. Adm. Code and the agitation requirements of ATCP 65.16(2)(d), Wis. Adm. Code.
 - 4.7.1 Agitation method and duration shall meet the specifications as determined by the tank (silo) manufacturer.

- 4.8 Milk obtained in a single farm pick-up shall not be commingled with any other load prior to delivery to the dairy plant.
- 4.9 The dairy plant operator who receives a single-farm milk pick-up shipment shall do all of the following before unloading any milk from the bulk milk tanker or commingling it with milk from another milk producer:
 - 4.9.1 Weigh the bulk milk shipment using a weighing method that meets the criteria outlined in ATCP 92, Wis. Adm. Code, (Weights and Measures).
 - 4.9.1.1 The dairy plant and milk producer shall designate the location of where the milk will be weighed for payment purposes.
 - 4.9.2 Return a duplicate copy of the weight collection record annotated with the weight and the milk delivery temperature to the farm for posting in the milkhouse and available for inspection.
 - 4.9.3 Sample the milk shipment according to ATCP 82.12(2m), Wis. Adm. Code. The sampling may only be done by a person, licensed as a Bulk Milk Weigher and Sampler under s. 97.17 or 98.146, Wisconsin Statutes.
 - 4.9.4 Test the bulk shipment for drug residues according to ATCP 65.72, Wis. Adm. Code.
- 4.10 The bulk milk tanker shall be cleaned and sanitized in accordance with ATCP 82.08 Wis. Adm. Code.

5.0 Contacts

DATCP Dairy Technical Specialists: <u>DATCPTechnicalSpecialists@wisconsin.gov</u>.

6.0 References

- 6.1 Wis. Admin. Code § ATCP 65
- 6.2 Wis. Admin. Code § ATCP 82
- 6.3 Wis. Admin. Code § ATCP 92 (Weights and Measures)

7.0 Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
2.0	S. Stoner	Updated to amend cooling and pick-up practices and to correct formatting errors.	06Jul2021
1.1	Dairy Program Staff	Corrected document designation and included reference to related PIN.	31Mar2021
1.0	Dairy Program Staff	New Document.	25Feb2021

8.0 Approval

6/29/2021 10:19 AM	Task Completed	 Anderson, Timothy P 	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
6/29/2021 10:22 AM	Task Completed	🗆 Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved	Approved by Stoner, Steve K
6/29/2021 1:50 PM	Task Completed	Sprecker, Troy S	Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments:	Approved by Sprecker, Troy S
7/6/2021 12:35 PM	Task Completed	Millard, Amy M	Task assigned to Millard, Amy M was approved by Millard, Amy M. Comments: Reviewed and no edit: Thanks	5. Approved by Millard, Amy M
7/6/2021 4:18 PM	Task Completed	Ingham, Steve C	Task assigned to Ingham, Steve C was approved by Ingham, Steve C. Comments: Made some minor e and saved file. Approve	dits Approved by Ingham, Steve C



Wisconsin Department of Agriculture, Trade and Consumer Protection Division of Food and Recreational Safety P.O. Box 8911 Madison WI 53708-8911

DAIRY FARM PRE-COOLER REQUIREMENTS

ALL PRE-COOLERS-GENERAL REQUIREMENTS

- 1. A plan shall be submitted to and reviewed before installing a pre-cooler.
- 2. The installation shall comply with 3-A 606-05 and Ch. ATCP 65 Wisconsin Administrative Code.
- 3. Pre-coolers shall drain completely; provide automatic drains where needed. Multiple pass coolers shall be designed to allow drainage of all the passes that can trap water.
- 4. Make pre-coolers easy to access for inspection and cleaning. Provide any tools needed for disassembly near the cooler.
- 5. Single use cooling water sources shall comply with ATCP 65.10 Wis. Adm. Code.
- 6. Recirculated coolant shall be tested and found safe every 6 months.
- 7. Glycol coolant shall be food or pharmaceutical grade.
- 8. Recirculated coolant systems shall protect the coolant from contamination.
- 9. Provide a sampling valve on recirculated cooling systems.
- 10. Provide a drip deflector on the swing pipe if it fills through the top of the bulk tank.
- 11. Locate pre-coolers in a proper area, not in milking barns or animal housing areas. Acceptable locations include the milkhouse, milking parlor, or a mini-milkhouse. Installation in a utility room may be accepted if the utility room meets the mini-milkhouse construction requirements (see Wisconsin Requirements for Mini-Milkhouse/Pumphouse F-fd-35).
- 12. For plumbing requirements, see next page.

PLATE PRE-COOLERS-ADDITIONAL REQUIREMENTS

- 1. Plate pre-coolers shall comply with 3-A Standard 11-09.
- 2. Plate pre-coolers installed after November 1990 are required to have end plate bolt cutouts.
- 3. Mount plate pre-coolers a sufficient distance from the wall with unobstructed access to the moveable end plate.
- 4. Provide easy to disassemble connections on the end plates.
- 5. Plate pre-coolers shall allow opening to the width of one plate or 15 inches, whichever is less.
- 6. Ceiling mounted units shall be easy to take down for inspection.
- 7. Provide a milk filter between the receiver jar and pre-cooler. Change filters prior to milking and prior to CIP.
- 8. For plumbing requirements, see next page.

TUBE IN SHELL COOLERS- ADDITIONAL REQUIREMENTS

Tube in shell pre-coolers shall comply with 3-A Standard 12-07. For plumbing requirements, see next page.

CUBE TYPE COOLERS AND RECEIVER JAR COOLERS - ADDITIONAL REQUIREMENTS

For plumbing requirements, see next page.

PLUMBING REQUIREMENTS FOR ALL PRE-COOLERS

- 1. If there are no valves in the discharge line from the pre-cooler, back flow prevention is not required.
- 2. If there is a valve in the line downstream from the pre-cooler, back flow prevention is required on the water supply line.
- 3. The pre-cooler discharge line shall have no submerged inlets or cross connections to other water lines, regardless of any back flow prevention in the water supply line.
- 4. If the pre-cooler discharge has submerged inlets, backflow prevention is required on both the water supply line and the discharge line

Acceptable Plumbing-Outlet Line Not Under Pressure



Note: Valves may be located in the water supply and bypass lines

Acceptable Plumbing-Outlet Pressurized



Note: Valves may be located in the water supply and bypass lines

WATER RECLAIMED FROM HEAT EXCHANGER PROCESSES

Potable water utilized for heat exchange purposes in plate or other type heat exchangers or compressors on dairy farms may be salvaged for the milking operation if the following criteria are met. **Note**: Reclaimed water for milking operations is defined as any equipment or personnel cleaning operations, hot water production, CIP make-up, or any water use that may contact milking equipment. Submit a plan to Department for review prior installing a reclaimed water system.

- 1) The water shall be stored in a storage vessel properly constructed of such material that it will not contaminate the water supply and be designed to protect the water supply from possible contamination.
 - Acceptable materials include those normally found in water distribution systems that also allow the system to be effectively cleaned if contamination of the system occurs.
 - Protection of the water supply in the tank includes the use of tight fitting or overlapping covers, placement of the tank in an environment that will not affect the integrity of the tank and protects the water supply from any potential source of contamination.
 - The storage vessel shall be equipped with a drain and access point to allow for cleaning.
- 2) The outlet of the plate cooler is properly isolated from the storage tank and must not reconnect with the potable water distribution system.
- 3) No cross-connection shall exist between this supply and any unsafe or questionable water supply or any other source of contamination.
- 4) There are no submerged inlets through which this supply may be contaminated.
- 5) The water shall be of satisfactory organoleptic quality and shall have no off flavors or odors.
- 6) The water shall be bacteriologically safe per NR 809.30. Test results shall be kept at the farm for review.
 - The dairy plant operator shall collect and analyze the reclaimed water system prior to initial approval and semi-annually thereafter. See below for the testing criteria.
- 7) Approved chemicals, such as chlorine, with a suitable retention period, may be used to suppress the development of bacterial growth and prevent the development of tastes and odors.
 - When chemicals are added, a monitoring program for the added chemicals shall be maintained.
 - Additionally, the chemical addition process shall not add substances that will prove deleterious to the use of the water or contribute to product contamination.
- 8) If the water is to be used for the sanitizing of teats, equipment, utensils, or backflush systems, approved sanitizers shall be used. Approved sanitizers may be added by an automatic proportioning device located downstream from the storage vessel but prior to end-use application.
 - Suitable backflow protection is required prior to the addition of chemical.

OR

Water obtained directly from the discharge of a raw milk heat exchanger during a milking may be used once to pre-rinse dairy equipment including lines, milking claw assemblies and milk receivers if all the following apply.

- Collect the water directly from the plate heat exchanger into the wash vat or utensil sink.
- There is no submerged inlet between the plate heat exchanger discharge and the wash vat or utensil sink
- Discharge the pre-rinse water to waste immediately following use.

WATER RECLAIMED FROM HEAT EXCHANGER PROCESSES FOR NON-POTABLE USE

Water may be reclaimed from plate heat exchangers on dairy farms and used for parlor floor wash down, manure pan flushing, holding area flushing, cattle watering and other non-potable uses without further testing. The outlet of the heat exchanger must be protected from backflow and must not reconnect with the potable water distribution system.

Bacteriological Standards for Private Water Supplies, Recirculated Water, and Reclaimed Water

Application: To private water, recirculated cooling water, reclaimed water in dairy farms. Frequency: Initially, after repair, modification or disinfection of a private water supply of dairy farms and every 2 years thereafter; and initially, following repair, modification or disinfection of recirculated cooling water and reclaimed water on dairy farms and semiannually thereafter.

Criteria:

• A MPN (Most Probable Number of coliform organisms) of less than 1.1 per 100 ml, when ten replicate tubes containing 10 ml, or when five replicate tubes containing 20 ml, are tested using the multiple tube fermentation technique.

OR

• A MPN (Most Probable Number of coliform organisms) of less than 1 per 100 ml by the membrane filter technique,

OR

• A MPN (Most Probable Number of coliform organisms) of less than 1.1 per 100 ml when using a MMO-MUG technique. Note: The MMO-MUG technique is not acceptable for recirculated cooling water).

Apparatus, Method, and Procedure: Tests performed shall conform to the current edition of Standard Methods for the Examination of Water and Wastewater or with FDA approved, EPA promulgated methods for the examination of water and wastewater.



DRY-GUD-013	Dairy
Revision: 1.0	Milkhouse Construction Requirements
Approved: April 8 2022	Wis. Admin. Code ATCP 65

SUBJECT: Milkhouse Construction Requirements

Scope

This guidance document applies to milking equipment installers, dairy producers, and dairy sanitarians tasked with constructing, maintaining, and inspecting milkhouses. This document adds clarity to milkhouse construction regulations included in Wisconsin Administrative Code ATCP 65.

Definitions

"Milkhouse" means an enclosed facility, separated from the milking barn or parlor by a self-closing door, in which milk is cooled or stored and in which equipment and utensils are cleaned, sanitized, and stored.

Guidance

- 1. Floors shall be of concrete or other equally impervious materials and be sloped for proper drainage to a floor drain. ¼ Inch per foot slope is recommended.
- 2. Floor drains shall not be under the bulk tank and shall be readily accessible. Floor drains shall be trapped if connected to a sanitary sewer system. Trench drains are acceptable under bulk tanks if the actual drain is not directly under the outlet valve and is accessible for maintenance.
- 3. Milkhouse drain and CIP pre-rinse water must be piped into a waste handling system and may not run through gutters in the barn or parlor areas. Properly treated wash and rinse waters from CIP systems may be used for floor rinsing of parlors. Please contact the DATCP for more information about the use of reclaimed water on farms.
- 4. Human waste and septage must be disposed of in a sanitary sewer system or by other methods that comply with ATCP 65.22(6), Wis. Adm. Code.
- 5. Plumbing shall meet state plumbing code requirements. Cleaning solutions should be discharged directly into the waste system and not across concrete floors. There shall be no cross-connections or submerged inlets.
- 6. All milkhouse doors shall be self-closing and tight fitting. If the milk house opens directly into the barn, the door shall be solid. Screen doors on outside openings shall open outward.

- 7. Adequate ventilation shall be provided to prevent excessive odors and visible condensation on any milkhouse surfaces. Ventilation shall not be located directly above bulk tank openings. Windows shall be effectively screened.
 - a. Air supplied to the milkhouse must be from outdoors or from other rooms that are clean and free of odors.
 - b. Vents located between the milkhouse and the parlor, barn, or cattle housing areas shall be provided with a fan that exhausts the milkhouse air and vent louvers that close tightly when the fan stops.
 - c. Forced air heating systems shall not blow air from milking or animal housing areas into the milkhouse.
- 8. There shall be at least 30 foot–candles of illumination in all working areas of the milkhouse. Lights located over a bulk tank shall be shatterproof, or effectively shielded to protect milk from contamination from broken glass.
- 9. Clearance of at least 24" is required on the top and milk-outlet side of bulk tanks to facilitate weighing/sampling, cleaning, and inspection. Clearance of 18" on the bulk tank sides is recommended to facilitate cleaning and maintenance.
- 10. When a bulk tank is used, a hose port is required and shall be installed in an outside wall at least six inches above the milkhouse floor. A paved 4' by 4' surface of concrete or other cleanable material shall be installed next to the outside wall, under the hose port.
- 11. Milkhouse walls and ceiling shall be constructed and finished so that they are impervious to water, light colored and easily cleanable.
- 12. Milkhouse shall be large enough to accommodate all necessary equipment.
- 13. Milkhouse shall be equipped with a fixed handwashing facility which is separate from the wash and rinse vat. Handwashing facilities shall be served by potable hot and cold running water from a faucet(s) directly over the hand sink. Water shall enter and leave the handwashing facility by means which preclude splash.
 - a. Soap and single service sanitary towels or another approved means of drying hands shall be available at all times.
 - b. A handwashing facility may be located in a room immediately adjacent to the milkhouse, provided it is readily accessible from the milkhouse. This section also applies to an AMI room in which the operator's hands will contact milk filters or other milk contact surfaces.
- 14. A two compartment wash vat is required and shall be supplied with potable hot and cold running water from a faucet located directly over the wash vats.

- a. A CIP wash vat may be used to meet the requirement for one of these vats if there are no brackets that would restrict its use. Milking units must be stored properly outside of the wash vat while the CIP vat is being used for the manual cleaning of other equipment.
- 15. Wells shall comply with applicable DNR administrative codes: NR 810, requirements for the operations and maintenance of public water systems; NR 811, requirements for the operation and design of community water systems; NR 812, well construction and pump installation.
- 16. Water heating capacity shall be adequate for all milkhouse operations. The producer or installer shall determine the water heating capacity needed. Guidance for sizing water heating systems can be obtained from The Dairy Practices Council publication number 58; "Guidelines For Sizing Dairy Farm Water Heater Systems" or from a milking equipment installer.
 - Alternative hot water heating systems (such as on-demand water heaters) may be authorized by the division. System specifications shall be submitted that documents the proposed system can provide an adequate supply of hot water for all milkhouse operations.
 DATCP for authorization. Refer to Dairy Practices Council guide line #58 for Sizing Dairy Farm Water Heater Systems via the contact information included below.
- 17. Access to the milkhouse by driveway and every exterior access door shall be located in such a way that no vehicle or person traveling to the milkhouse must pass through an animal walk way, holding area, or yard where excessive animal waste may accumulate.

Contacts

The Dairy Practices Council 708 Sherman Street, Pandora, OH 45877-9423 United States (419) 890-5147 www.dairypc.org

DATCPTechnicalSpecialists@wisconsin.gov

References

Wisconsin Administrative Code Chapter ATCP 65

DNR Administrative Codes NR 810, NR 811, and NR 812

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Updated D-fd-034 to GUD format. Added "Scope", "Definitions", "Contacts", and "References" subsections.	April 8 2022

Approval

4/8/2022 7:50 AM	Task Completed	Anderson, Timothy P	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
4/8/2022 8:47 AM	Task Completed	Sprecker, Troy S	 Task assigned to Sprecker, Troy S was approve by Sprecker, Troy S. Comments: 	d Approved by Sprecker, Troy S
4/8/2022 9:08 AM	Task Completed	Stoner, Steve K	Task assigned to Stoner, Steve K was approve by Stoner, Steve K. Comments: Approved	d Approved by Stoner, Steve K



DRY-GUD-014	Dairy
Revision: 1.0	Mini-Milkhouse Requirements
Approved: 18 Apr 2022	Wisc. Stat. 97, & Wis. Admin. Code ATCP 65

SUBJECT: Mini-Milkhouse Requirements

Scope

This guidance document applies to milking equipment installers, dairy producers, and dairy sanitarians who are tasked with installing, maintaining, and inspecting milking facilities with a mini-milkhouse. This guidance document clarifies the installation requirements for a mini-milkhouse for a pipeline system in milking facilities when, due to the existing construction and facility layout, it is not possible to provide the proper placement of milking equipment in the milkhouse or clean-in-place parlor.

Definitions

"Mini-milkhouse" refers to an area outside of the milkhouse or clean-in-place parlor used to house acceptable milking equipment as listed below.

Guidance

- 1. Acceptable milking equipment that may be located in a mini-milkhouse:
 - a. Receiver jar
 - b. Milk pump
 - c. Milk line drain
 - d. Moisture trap
 - e. Plate-type pre-cooler
- 2. Construction Requirements
 - a. Floor, walls, and ceiling must comply with milkhouse standards
 - b. A trapped floor drain or a properly installed and maintained sump
 - **c.** Adequate room to service equipment
 - **d.** Adequate lighting 30ft candles of illumination
 - **e.** Hot and cold running water directly plumbed to the enclosure or accessible to the enclosure via a hose station or bucket and brush.
 - f. Ensure all access points into the mini-milkhouse are dust tight
 - **g.** Mini-milkhouse and milking equipment must be accessible for inspection, access may be accessible from the milking barn.
 - h. Mini-milkhouse shall be maintained in a clean condition

Contacts

Dairy Technical Specialists – email DATCPTechnicalSpecialists@wisconsin.gov

Uncontrolled if Printed

References

Wisconsin Administrative Code ATCP 65

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Changed format from D-fd-035 to match GUD template. Removed term "pump house" throughout. Added "Contacts" and "References" subsections.	18 Apr 2022

Approval

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Assigned To	Title	Due Date	Status	Related Content	Outcome
Stoner, Steve K	Please approve Mini Milkhouse Requirements 🛛 🕬	4/22/2022	Completed	Mini Milkhouse Requirements	Approved
🛿 Anderson, Timothy P	Please approve Mini Milkhouse Requirements 🛛 🕬	4/22/2022	Completed	Mini Milkhouse Requirements	Approved
Sprecker, Troy S	Please approve Mini Milkhouse Requirements	4/22/2022	Completed	Mini Milkhouse Requirements	Approved

DRY-PIN-023	Dairy Program
Revision: 1.0	Air Injector and Admissions Requirements
Approved: 09/03/2024	Wis. Stat. and/or Wis. Admin. Code: ATCP 65

Purpose – Instructions for inspecting Air Injectors, Vacuum Line Regulators, Air Bleeds and Air Blows.

Scope – Dairy Sanitarians while conducting farm inspections.

Definitions

<u>Air Bleed</u> – Air inlets found on a wash manifold that provide turbulence during C.I.P. (similar to an air injector).

<u>Air Blow</u> – Used to push milk from the milk pump to a bulk tank as the last step of milking before the pump is turned off.

<u>Air Injector</u> – A mechanical valve used to admit air intermittently into the CIP system to increase cleaning action.

<u>Air Under Pressure</u> – Air, the pressure of which has been increased by mechanical means to exceed atmospheric pressure, and which is in contact with products or cleaning/sanitizing solutions or surfaces.

<u>Close Coupled</u> – Mounting or connecting of components so that the intervening product contact area separating the components is as short as possible (less than 2x the pipe diameter).

<u>Dead End</u> – An area or space where milk or cleaning/sanitizing solution or other extraneous matter may be trapped, retained or not completely displaced during operational or cleaning procedures.

<u>Sanitary Design</u> – The strategic engineering of equipment and systems to minimize contamination risk and enable effective cleaning and sanitation.

Wash Manifold – Line which facilitates the cleaning of units washed in the milkhouse.

Procedure

The location of any air injector(s) must be listed on the pipeline plan submitted for review. All air injectors used for milk handling systems shall be in compliance with the following requirements.

Air Injectors

- 1. Air injectors shall be installed in the milkhouse, milking parlor or room of equivalent cleanliness.
 - a. Installation of air injectors in a milking barn is not allowed.
 - b. Air under pressure used for air injection shall be of sanitary quality.
 - c. Air injectors installed in a milking parlor shall be equipped with an appropriate filter and properly protected from contamination.
 - d. If a filter is found on an air injector in the milkhouse, it must be clean.
- 2. Air injectors installed on the milkline:
 - a. If the air injector is close coupled to the milkline it must be of sanitary design (including materials and fittings).
 - i. Distance between the bottom of the air injector and the top of the milkline shall not exceed two times the diameter of the milkline.
 - b. Non-sanitary air injector(s) may be installed on the milkline, provided they are not close coupled and equipped with a CIP jumper or CIP line that adequately cleans the dead end. The CIP jumper or CIP line must be physically disconnected during milking and protected from contamination.

3. Air injectors installed on a wash manifold or CIP line do not need to meet sanitary design standards and do not require a filter if installed in the parlor. Air injectors installed on CIP lines must be maintained in a sanitary manner.

Vacuum line air regulators

- 1. Vacuum regulators can be located outside of the milkhouse (parlor/barn).
- 2. Filters are not required for a vacuum line air regulator.

Air Bleeds

- 1. Are to be located only in the milkhouse, otherwise need a filter.
- 2. Must be close coupled if on the milkline.
- 3. Shall be constructed of sanitary materials.
- 4. Shall be maintained in a sanitary manner.

Air Blows

- 1. Shall be accessible for inspection.
- 2. Filters must be clean and present.
- 3. Perforations in the filter media shall be not less than 3/32 in (2.38 mm) in diameter.
- 4. Excess filters must be stored in a sanitary manner.

If you have any questions, please contact your area Dairy Technical Specialist.

References

Wisconsin Administrative Code, ATCP 65

3-A Sanitary Standards for Filters using Single Service Filter Media, Number 10-04

3-A Sanitary Standards for Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces, Number 604-05

3-A Accepted Practices for Installation and CIP Processing Equipment and Hygienic Pipelines, Number 605-05

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Farm Policy Team	New Document	09/03/2024

Approval

Assigned To	Title	Due Date	Status	Related Content	Outcome
Sprecker, Troy	Please approve Air Injectors and Admissions Requirements	8/25/2024	Completed	Air Injectors and Admissions Requirements	Approved
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DRY-GUD-012	Dairy
Revision: 1.0	Clean-in-Place Milking Parlor Construction Standards
Approved: March 29 2022	Wis. Admin. Code ATCP 65

SUBJECT: Clean-in-Place Milking Parlor Construction Standards

Scope

This guidance document applies to milking equipment installers, milk producers, and dairy sanitarians involved in constructing, maintaining, and inspecting milking facilities with C-I-P milking parlors.

Definitions

- 1. "C-I-P" means clean-in-place, which is the process by which equipment is cleaned and sanitized without being disassembled and by the mechanical circulation of cleaning and sanitizing solutions onto interior milk and dairy product contact surfaces.
- 2. "Milking parlor" means either of the following:
 - a. A roofed and enclosed facility that is designed and used year-round exclusively for the milking of milking animals, and that is not designed or used to house any animals.
 - b. A seasonal facility constructed without walls that is used exclusively for the milking of milking animals and that is not designed or used to house any animals.

Guidance

Manual cleaning of milk contact surfaces shall be done in the milkhouse. Milk contact surfaces may not be manually cleaned in a milking parlor.

C-I-P milking equipment may be cleaned, sanitized, and stored in a milking parlor if all of the following conditions are met:

- 1. Floor and Gutter Construction
 - a. Shall be constructed of concrete or other materials that are equally impervious and easy to clean.
 - b. Parlor mats shall be removable to allow for cleaning.
 - c. Shall be sloped at least 1 inch per 10 feet to a drain. Gutter covers, if installed, shall be made of impervious material and be removable for cleaning.
 - d. A watertight sump with pump may be used to remove liquid waste from the parlor.
- 2. Wall and Ceiling Construction
 - a. Shall be constructed of smooth impervious materials. Finishes shall be light colored and easy to clean. Raw or treated wood shall be painted or finished as required to meet this criteria.
 - b. Doorways to and from the milking parlor shall be provided with tight–fitting solid doors. These doors shall be closed when equipment is being cleaned or stored. Strip curtains are

not an acceptable replacement for solid doors. Complying curtains are acceptable if they are sufficiently tight-fitting to protect the opening against entry of insects, rodents and other pests.

- c. Windows shall be installed flush with the inside parlor walls or the sill should be sloped to drain.
- d. Open-air parlor facilities are designed for non-confined animal housing systems (rotational grazing). These facilities are exempt from CIP parlor wall, door and window standards. All open-air parlors require a formal variance issued by the department. Contact the area Dairy Technical Specialist for additional information a link to the current technical specialist map and contact information is provided below.
- 3. Lighting
 - a. Natural or artificial lighting shall be provided to ensure adequate illumination for milking operations.
 - b. There shall be at least 10 foot candles of illumination in all working areas and 30 foot candles of illumination in all areas of the parlor where CIP milking equipment is cleaned, sanitized, and stored.
- 4. Ventilation
 - a. Shall be adequate to prevent visible condensation on walls, ceiling, and to prevent excessive odors. Heating, ventilating, and air conditioning systems shall be designed so that air from the parlor, animal housing areas, and toilet room may not enter the milk storage room.
- 5. Milk Handling Equipment
 - a. All equipment shall comply with 3A 606-05 Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment, and ASAE Standard S518.2.
 - i. Recessless or rolled-on ferrules do not meet the sanitary requirements of Accepted Practices 606-05 as referenced above.
 - b. Before installing a milk handling system, the installer shall submit plans to the department for review.
 - c. New milk handling systems or equipment shall not be sold until specifications or prototype equipment are first reviewed by the department.
 - d. Butterfly valves shall be easy to access and disassemble. Butterfly valves shall be disassembled and cleaned after each milking.
 - e. Air under pressure in contact with milk shall comply with 3A 604-05 Accepted Practice; Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces. Areas of primary concern are the use of a disposable media filter and the sanitary check valve located at the point of application.
 - f. Milk handling systems shall be effectively separated from the cleaning make-up vats or the CIP solution lines during milking to avoid possible contamination.
 - g. CIP milking equipment, if cleaned, sanitized or stored in the milking parlor, shall be designed, installed, handled and stored so that milk contact surfaces are protected from contamination at all times.
 - h. A receiver group may only be installed in a pit when the following requirements are met:
 - Easily accessible for inspection, cleaning, and maintenance receiver group shall not be installed under cow decks, steps, or in an area exposed to excessive manure.

- ii. The pit floor shall be sloped to remove liquid wastes, and liquid wastes shall be effectively removed to preclude cross-contamination of the milking system.
 Removal of wastes via a sump is acceptable.
- iii. Receiver group shall be installed so that the milking system is protected against cross contamination from floor drains; to include pinch valve drains which may not terminate in a floor drain, sump, or anywhere liquid wastes accumulate.
- i. Pipelines mounted inside tunnel structures shall meet the following requirements:
 - i. Tunnel structure must be of watertight and vermin resistant construction.
 - ii. Structure shall be adequately sized for inspection and servicing when needed.
 - iii. There shall be no clamped fittings inside the tunnel.
 - iv. Lines must be properly supported to maintain the required slope.
 - v. The milkhouse end of the tunnel must be tightly closed off to prevent air exchange between the two rooms. The tunnel floor shall slope to drain in the direction of the parlor.
- 6. Water Systems
 - a. Wells used to supply water shall comply with chapter NR 812, Wisconsin Administrative Code.
 - b. All plumbing shall comply with DSPS plumbing code and Wisconsin Administrative Code.
 - c. Water discharged from milk pre-coolers may be re-used for pre-rinsing dairy equipment, watering livestock, and holding area wash down, provided that the system meets the requirements:
 - i. Pre-cooler water system shall meet the requirements listed in ATCP 65.10(7)(b).
 - ii. Reclaimed water storage tanks shall not be cross connected to the potable water system.
 - iii. Outlet lines from the plate cooler shall not be cross connected to the potable water system.
 - iv. Water may also be used for other non-potable purposes in which it does not come into contact with milk, milk contact surfaces, potable water, and potable water contact surfaces.
 - d. An air gap shall be maintained between every potable water outlet and the flood rim of the vessel that it supplies, and between the potable water outlet and any source of potential contamination, unless an acceptable method of protection is provided.
 - e. If cows are cleaned in a milking parlor prep stall prior to milking, rather than being manually cleaned at the milking stations, hot water under pressure shall be supplied to the prep stall and used for cleaning purposes. There shall be an adequate supply of hot water so that all cows handled through the prep stall may be fully cleaned without impairing the availability of hot water for other parlor or milkhouse operations.
- 7. Wastewater Handling
 - a. Wastewater containing milky pre-rinse from pipelines and bulk tanks can be used for animal feed or deposited in the manure handling system.
 - b. Detergent wash, acid rinse, and sanitizing solutions (graywater) may be collected and reused for milking parlor floor, wall and holding area wash-down.
 - c. Wastewater generated during water softener discharge may be used for milkhouse, milking parlor, and holding area wash-down.

- d. Wastewater collected from floor drains shall not be reused for milking parlor floor, wall, and holding area wash-down.
- e. Manure and liquid wastes from milking parlor operations shall be drained and removed from the parlor in a sanitary manner after each milking, so that there are no solid or liquid waste accumulations in the milking parlor.
- f. Sewage from toilets and showers shall be disposed of in a septic system. Sewage shall not be disposed of in the manure handling system. The use of chemical toilets, pit privies, and incinerator toilets meet the intent of this section.

Contacts

Dairy Field Supervisors

Dairy Technical Specialist - DATCPTechnicalSpecialists@wisconsin.gov

References

ATCP 65, Wisconsin Administrative Code

https://www.3-a.org/

- 3-A 606-05 Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment
- 3A 604-05 Accepted Practice; Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces

ASAE Standard S518.2

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Updated D-fd-114 to GUD format. Added "Scope", "Definitions", "Contacts", and "References" sections.	March 29 2022

Approval

3/29/2022 1:25 PM	Task Completed	Anderson, Timothy P	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
3/29/2022 3:54 PM	Task Completed	Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved	Approved by Stoner, Steve K



State of Wisconsin Governor Tony Evers

Department of Agriculture, Trade and Consumer Protection Bradley M. Pfaff, Secretary

Recessless or Rolled-On Ferrules on Milking Pipelines

On January 1, 2001, recessless or rolled-on ferrules were no longer accepted for milking pipeline installations. ATCP 65.14(1), Wisconsin Administrative Code requires that milking and milk handling system shall comply with "3-A Accepted Practices for the Design, Fabrication and Installation of Milking and Milk Handling Equipment, 606-05.

3-A Accepted Practice, Number 606-05 states that recessless or rolled-on fittings are acceptable only when temporarily modifying or repairing existing on-site farm milk handling systems with fittings installed with no cracks or crevices

Please use the following criteria for the evaluation of pipelines utilizing recessless or rolled-on ferrules.

For existing farm milking and milking handling systems on currently licensed farms; when rolled on ferrules are in use, make a note that they were observed and that they are permitted when in good repair until the farm is sold or changes licenses.

Licensing a Milk Producer at an existing licensed farm.

When licensing a producer that is taking over an already licensed and operating farm, where the farm has meet all requirements of ATCP 65 other than the rolled on ferrules, a Grade A permit can be issued and an administrative conditional license not to exceed 180 days for repair.

Licensing a Milk Producer at an existing farm that is not in operation.

When licensing a milking facility with an existing pipeline with rolled on ferrules, the sanitarian
is to discuss the issue with the producer and dairy plant field rep and come to an agreement
with the producer on timeline to get these rolled on ferrules removed. The sanitarian shall write
an administrative conditional license agreement for a Grade B License only with no more than
180 days for repair. Do not issue a Grade A Permit when Rolled on Ferrules are present.

Repairs to systems installed on or after January 1, 2001 utilizing welded ferrules.

• Recessless or rolled on ferrules may be used for emergency repairs where welding equipment is not available. Replace these fittings with a welded fitting as soon as practical. Recessless or rolled-on ferrule is only a temporary repair not to exceed 7 days.

Direct Chemical Addition into Water Systems (Peroxide and Other Chemicals)

Wisconsin has two 'Water Authority' agencies. DNR is responsible for enforcement of Regulations covering the water system from the well to the pressure tank. Department of Safety and Professional Services (DSPS) is responsible for enforcement of Regulations covering the drinking water system from the pressure tank to its end use. (If there is suitable backflow protection between the well and the pressure tank, the boundary of DSPS responsibility moves upstream to that point.) Approval documents related to direct chemical injection are required from whichever agency has "jurisdiction" depending on when injection occurs.

DNR Requirements:

- 1) DNR Approval letter
- 2) Licensed Pump Installer who conduct the installation of the Chemical Injection System.
- 3) DSPS approved metering pump https://verification.dsps.wi.gov/Industry-Service-Searches/ProductResults?DescrID=WTCID
- 4) NSF 60 approved chemical with certification letter from mfr. or label with required information
- 5) The injected chemical(s) must be Generally Recognized As Safe (GRAS) and be listed in the certification letter or label
- 6) Chemical(s) must be injected at approved concentration

DSPS Requirements:

- 1) Licensed Plumber who conduct the installation of the Chemical Injection System.
- 2) DSPS approved metering pump <u>https://verification.dsps.wi.gov/Industry-Service-Searches/ProductResults?DescrID=WTCID</u>
- 3) NSF 60 approved chemical with certification letter from mfr. or label with required information
- 4) The injected chemical(s) must be GRAS and be listed in the certification letter or label
- 5) Chemical(s) must be injected at approved concentration

All required information must be readily available on the farm. Information must also indicate pump setting and concentration (ppm) of chemical actually injected.

Installers Meeting Q&A- Appleton 3-13-2024 & Chippewa Falls 3-21-2024

Applications

- 1. When will there be an update on the requirements for positive ventilation in an AMI and how will we know when they come out?
 - a. The following changes passed at the 2023 NCIMS Conference. The AMI room does not have any additional requirements than what is required for a milkhouse. Ventilation must be sufficient to prevent odors, condensation, etc. in the AMI room. The IMS-a has been published so this change will be incorporated into the 2023 PMO when published. DATCP is supporting this change and is implementing this enforcement change.
- 2. Are roll-on ferrules part of the application? Do you need to submit an application when replacing them?
 - a. No, you do not need to submit an application for replacing roll-on ferrules.

Electronic Records

- 1. Can you make the annotations on the farm for a partial pick-up for a Hi-Perform Plus on a cell phone? What shall we do since it's not possible?
 - a. Mueller has recently made a system update that allows annotations to be made on the Hi-Perform Plus.
- 2. Can the producer print out the electronic record and have the paper copy?
 - a. Yes, this is an option. Records must be printed every single day. The scale graduations and scaling requirements found in PMO Appendix H Section IV for printed records must be adhered to.

Installation Issues

- 1. AMI Verifications/Teat Prep/other required on-farm documents. Do they have to be kept in a binder, or can they be on the desktop on the producer's computer?
 - a. All of these documents must be accessible on the farm for inspection. DATCP staff cannot use farm computers to access them.
- 2. Should sanitarians be debiting the white flaky stuff found on pump seals?
 - a. The sanitarians should be using discretion to determine if residue is from normal use or from a failed seal. It depends on the amount and nature of the residue. Under normal use the amount of residue should be minimal and it should be dry.
- 3. When is it required to use perforated discs in an installation?
 - a. For AMI installations they are required to be used on the bulks tanks to keep pests and other contamination out and it also the bleed portion of the block-bleed-block.
- 4. Are screens acceptable on drains/overflows on other milk handling equipment such as receive-alls?
 - a. If the overflow outlet is not a product or CIP solution contact surface, a screen would be acceptable provided that it's easy to remove for cleaning, kept reasonably clean and there's no way for droplets which have contacted the screen to drip back into the product/solution contact surfaces of equipment.
- 5. Is there a size requirement for the perforation holes on a perforated disc?
 - a. Perforation holes need a diameter of at least 1/32 inches per 3-A. They should be small enough to keep flies out.

- 6. Some older bulk tanks have screens located on the vent cap and are being marked on inspections because there is a potential for water contamination. How can these vents be corrected to be in compliance?
 - a. Typically, this style bulk tank vent consists of two pieces: a perforated vent on the outside and an interior solid metal piece with a lip. Many times, the solid metal piece with the lip is installed upside down and allows condensation to drip into the milk instead of deflecting it. An easy fix is to flip the sold piece around and the condensation will be deflected off. If this isn't an option, then installing a proper bulk tank vent may be necessary.
- 7. If a flow meter installed on a farm is being used for payment purposes, do they have to be routinely tested?
 - a. At this time, ATCP 65 does not require testing of flow meters used for payment purposes installed on a farm. Per information provided by DATCP Division of Weights and Measures, "Most Wisconsin licensed weights and measures service companies do leave their company calibration sticker on a device after servicing it. Typically, they suggest a one-year calibration cycle, but weights and measures does not have a test requirement for these meters after the initial installation test. They are only required to ensure that the equipment is correctly maintained continuously during its service life. For some equipment, that could mean monthly service and for other equipment it may only need to be serviced every five years."
 - b. Nothing in 65 that says it needs to be calibrated after initial check, but plant may want to have them down periodically to ensure accuracy.

Water Systems

- 1. How do you contact the DNR for approval of chemical addition upstream of the pressure vessel?
 - a. It is recommended to start with a licensed pump installer or a list of DNR private water supply specialists can be found at this <u>link</u>.
- 2. If you install a hydrant for barn wash down is a hose shut off considered a valve?
 - a. Yes, a hose shutoff is considered a valve and would require a high hazard backflow device that can handle backpressure. If the wash down hose is not permanently connected to a potable water line, an ASSE 1052 or 1011 may be sufficient as long as the hose connection backflow preventer or hose connection vacuum breaker are not subjected to backpressure situations of more than 10 feet of water column. If the wash down hose is connected to a potable water line permanently, an ASSE 1013 would be required. If the PSIG of the line is 150 or greater than an ASSE 1013 would be required.
- 3. Is a hose bibb an acceptable backflow preventer for a pressure water?
 - a. A hose bibb (ASSE 1011) is acceptable for a portable pressure washer, but would not be acceptable for a stationary/permanently mounted washer. Portable pressure washers can be disconnected so the hose bibb would not be subjected to continuous pressure for more than 12 hours. A permanently mounted pressure washer on the potable water line would require an ASSE 1013.
- 4. Do alternative water heater approvals expire every five years?
 - a. Yes, ATCP 65.08(3)(f) states the division may authorize alternative systems, including heat recovery and continuous flow systems that provide adequate hot

water for all milkhouse operations. Authorization shall be in writing and valid for 5 years. Re-authorization for each subsequent 5-year period shall be obtained in writing from the division. The sanitarians should be looking for the five year authorization letters and will debit it on the inspection if not found.

- 5. Do sanitarians inspect non-pressurized vessels (NPSV) potable water tanks?
 - a. NPSV potable water tanks need DNR approval first, but after that the sanitarian should be looking at non-pressurized storage vessels (NPSV) during routine farm inspections. It may be helpful to make a note in the inspection folder if the farm has these vessels otherwise the sanitarian may not know they exist since they are often hard to locate on farms.
 - b. Items to looks for on a NPSV:
 - i. Ground Reservoirs: Tight, overlapping cover/access, screened overflow, supply and overflow extending through the structure.
 - Elevated Storage: Tight, overlapping cover/access, overflow pipe extending 8 feet away from the vessel, screened elbow/overflow at least 12 inches above the ground, overflow must be air gapped, Pipe shall discharge onto a splash plate.
- 6. What is the procedure for getting a NPSV approved on dairy farms?
 - a. A licensed pump installer or well driller conduct the initial inspection and submit documentation to the DNR. The DNR will review it and if approved, send out an approval letter. Sanitarians will inspect the NPSV on subsequent inspections. The producer or dairy plant operator shall inspect the NPSV if water quality samples from NPSV come back with unsatisfactory results.
- Does a booster pump downstream of a pressure tank need backflow prevention?
 a. No.
- 8. If a booster pump is being used as a permanently mounted pressure washer is an ASSE 1013 required to be on the potable water line?
 - a. Yes.
- 9. Does peroxide used for water treatment need to be in a one gallon container or can it be in a larger container?
 - a. After the pressure tank: DSPS regulations
 - i. SPS 384.20(5)(r) does not have any container size requirements. As long as the system is installed by a licensed plumber, has a DSPS-approved metering pump, NSF 60 approved chemicals, GRAS additives, and chemicals are used at appropriate concentration then there are no other additional requirements. Appropriate backflow prevention would be needed if any of the above requirements are not being met.
 - ii. DSPS approval letter and review would be needed if:
 - 1. A water treatment device that makes a contaminant reduction claim which is not certified by a certification body accredited by the American National Standards Institute (ANSI).
 - 2. Water treatment device is not certified to a standard which covers material safety, by a certification body accredited by ANSI.
 - b. Before the pressure tank: DNR regulations
 - i. NR 812.091 & NR 812.37 do not have any container requirements for non-community type water systems. Ultimately, the DNR must write an

approval letter for water treatment devices installed before the pressure tank.

- ii. NR 811.40 does not have any container requirements for community water systems.
 - "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Any water system serving 7 or more single family homes, 10 or more mobile homes, 10 or more apartment units, 10 or more duplex living units or 10 or more condominium units shall be considered a community water system unless information is provided by the owner indicating that 25 year-round residents will not be served.
 - 2. NR 811.43(5)(b) requires DNR approval before treating community water systems.

Silos/Single Farm Pick-ups

- 1. Are annotations required on silo temperature charts for partial pick-ups?
 - a. Yes, it is still required to make annotations on silo charts to ensure cleaning is completed at least every 72 hours and confirm the commingling temperature is met.
- 2. How long do you need to keep the charts in the milk house?
 - a. Temperature charts are required to be kept on the farm for at least six months.
- 3. What is needed if an on-farm silo does not have an agitation time and duration specified by the manufacturer?
 - a. A study can be completed to determine the appropriate amount of agitation necessary to make a homogenous mixture.
- 4. Is it required to have cooling on an on-farm milk silo?
 - a. No, cooling is not required on a silo as long as the milk is being cooled to 45°F or less before going into the silo and the temperature is maintained at 45°F or less until the milk is picked up.



DRY-GUD-008	Dairy
Revision: 1.0	Contact List for Dairy Farm Equipment Installers
Approved: 27Nov2021	Wisc. Stat. and/or Wis. Admin. Code: ATCP 65.14

SUBJECT: Guidance for Industry – Contact List for Dairy Equipment Installers

Scope

The purpose of this document is to provide industry, specifically Dairy Equipment Installers a list of Department contacts and other Regulatory and Association contacts who can assist with proper design and installation of dairy farm milking facilities and equipment.

Definitions

- DATCP Wisconsin Department of Agriculture, Trade and Consumer Protection
- DPC Dairy Practices Council
- DTS Dairy Technical Specialist
- DSPS Wisconsin Department of Safety and Professional Services
- ASABE American Society of Agricultural Biological Engineers
- UW-CALS University of Wisconsin Madison, College of Agriculture and Life Sciences

Guidance

- DATCP Division of Food and Recreational Safety Central Office PO Box 8911 Madison WI 53708-8911 608-224-4700 <u>datcptechnicalspecialists@wisconsin.gov</u> <u>Dairy Farm Resource Documents</u>
 - a. Equipment Approvals
 - b. Policy Questions
 - c. Copy of current Milking Equipment Installers Manual and other farm resource documents
- DATCP Division of Food and Recreational Safety 718 W Clairemont Ave Suite 128, Eau Claire WI 54701 715-839-3844 <u>datcpdfsplanreview@wisconsin.gov</u>
 - a. Submittal of <u>Application for Milk Handling Equipment and Facility Construction</u> and associated plans.

- DATCP Division of Food and Recreational Safety Dairy Technical Specialists <u>datcptechnicalspecialists@wisconsin.gov</u> Dairy Technical Specialist Map
 - a. Plan Review
 - b. Equipment Review
 - c. Farm Specific Questions
- Wisconsin Department of Safety and Professional Services Division of Safety and Buildings 608-266-3151 <u>DspsSbPlbgTech@wi.gov</u>

 Plumbing and Cross Connection Control <u>Plumbing Program</u> <u>Private Onsite Wastewater Treatment Systems Program</u>
 - a. Septic Systems
- American Society of Agricultural Biological Engineers 2950 Niles Rd St Joseph MI 49805 269-429-0300 or 800-606-2304 Email: <u>hq@asabe.org</u> Web site: www.asabe.org
 - a. ASABE Standards
 - b. ANSI/ASABE AD5707:2007
 - c. ANSI/ASABE AD6690:2007
 - d. ANSI/ASABE AD20966:2007
- 3-A Sanitary Standards, Inc. 6888 Elm Street, Suite 2D McLean VA 22101 703-790-0295 Email: <u>3-AINFO@3-A.org</u> Website: <u>www.3-a.org</u>
 - a. 3-A Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment No. 606-05
- The Dairy Practices Council 708 Sherman Street Pandora, OH 45877 (419)890-5147 www.dairypc.org
 - a. Helpful guidelines on milking parlors, milk pre-coolers, water heater sizing, etc.

- University of Wisconsin CALS Outreach Office

 1450 Linden Drive
 Madison, WI 53706
 608-262-1251
 Email: <u>info@cals.wisc.edu</u>
 Web site: <u>www.cals.wisc.edu</u>
 - a. Training in milking system design, sizing and testing
- 9. Local County UW-Extension Agricultural Agent <u>UW-Extension County List</u>

Contacts

Dairy Technical Specialist workgroup - datcptechnicalspecialists@wisconsin.gov

References

ATCP 65.14 and ATCP 65.16, Wisconsin Administrative Code.

Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Steve Stoner	New Document	27Nov2021

Approval

11/4/2021 3:55 PM	Task Completed	🗆 Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved	Approved by Stoner, Steve K
11/5/2021 1:24 PM	Task Completed	Sprecker, Troy S	Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments:	Approved by Sprecker, Troy S
11/27/2021 6:27 PM	Task Completed	Anderson,	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments: Steve, nicely put	Approved by Anderson, Timothy P