**LIQUID CHEMICAL FEED SYSTEM CHECKLIST**

**12VAC5-590-850 and 860**

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| --- | --- |
| Project Name: |       |
| Reviewed By: |       | Date: |       |

|  |
| --- |
| **General Information** |
| Feed Pump Type (i.e. diaphragm or peristaltic) |  |
| Feed Pump RangeMinMax |  gpm gpm |
| Solution Crock/Day Tank Size |  gal |
| Pump Control Scheme (describe): |

|  |
| --- |
| GENERAL- HOUSING & SAFETY PROVISIONS (also see 12VAC5-590-560 and 680)  |
| Describe reasons for this treatment: Click or tap here to enter text. |
| Chemical name/type: Click or tap here to enter text. |
| NSF maximum use level: Click or tap here to enter text. |  |
| Application point(s) (appropriate?): Click or tap here to enter text. | Yes [ ]  No [ ]  |
| Adequate space for servicing, repair, and observation of operation | Yes [ ]  No [ ]  |
| Location of feeders, piping layout, application points:* Feeders close to point of application
* Feeders, piping, injectors accessible
 | Yes [ ]  No [ ]  Yes [ ]  No [ ]  |
| Storage and feed system dedicated to a single chemical | Yes [ ]  No [ ]  |
| Drain for spills & overflows from liquid storage tanks provided. No direct connection between sewer & drain or overflow | Yes [ ]  No [ ]   |
| No incompatible chemicals stored, fed, or handled together | Yes [ ]  No [ ]  |
| Open basins, tanks, conduits protected from spills, drainage | Yes [ ]  No [ ]  N/A [ ]  |
| Floors impervious, slip-proof, well drained  | Yes [ ]  No [ ]  |
| Facilities provided for washing face, gloves, protective equipment,federal occupational safety and health standards may require eye wash and shower, strongly encouraged for chemicals such as caustic soda, sodium hypochlorite and acids | Yes [ ]  No [ ]  N/A [ ]  |
| Acid storage vented outside, not common vent with day tanks, no opening to the inside | Yes [ ]  No [ ]  N/A [ ]  |
| Gases vented outside, above grade, remote from air intakes | Yes [ ]  No [ ]  N/A [ ]  |
| Explosion-proof electrical equipment provided for Sodium chlorite | Yes [ ]  No [ ]  N/A [ ]  |
| Carts, elevators, or other means to mitigate excessive lifting | Yes [ ]  No [ ]  N/A [ ]  |
| FEED EQUIPMENT |  |
| Essential processes [required for Disinfection & removal of all Primary Contaminants]:Standby feeder or combination of feeders required100% Standby capacity unit, or capacity with largest unit out of service | Yes [ ]  No [ ]  N/A [ ] Yes [ ]  No [ ]  N/A [ ]  |
| Feed rate, range adequate | Yes [ ]  No [ ]  |
| Feed Pump: positive displacement type and construction material compatible with chemical | Yes [ ]  No [ ]  N/A [ ]  |
| Gravity Feed: rotameters provided | Yes [ ]  No [ ]  N/A [ ]  |
| CONTROLS |
| Manual or automatic control | Manual [ ]  Auto [ ]  Both [ ]  |
| Manual startup available | Yes [ ]  No [ ]  N/A [ ]  |
| If flowrate not constant, proportional chemical feed | Yes [ ]  No [ ]  N/A [ ]  |
| Automatic controls provided with alarms & recorders | Yes [ ]  No [ ]  N/A [ ]  |
| SOLUTION TANKS |
| Construction material compatible with chemical (acid resistant if applicable), suitable for food contact or meets NSF/ANSI 61. | Yes [ ]  No [ ]  |
| Uniform solution strength, continuous agitation of slurries | Yes [ ]  No [ ]  N/A [ ]  |
| Sufficient number and capacity for tank servicing | Yes [ ]  No [ ]  N/A [ ]  |
| Space for > 30 day supply (less if local supplier, conditions allow) | Yes [ ]  No [ ]  N/A [ ]  |
| Tanks > 30 gal capacity or fixed in place (does not apply to 55 gal drums): * Provided with drain (tanks > 55 gal) unless other means of dewatering provided; not connected to sewer
* Air gap required at pipe drain, > 2 pipe diam, not < 2-inch
 | Yes [ ]  No [ ]  N/A [ ]  Yes [ ]  No [ ]  N/A [ ]  |
| Means to indicate solution level in tank provided  | Yes [ ]  No [ ]  N/A [ ]  |
| Cover provided | Yes [ ]  No [ ]  N/A [ ]  |
| Subsurface locations:* Free from possible contamination
* Assure positive drainage
 | Yes [ ]  No [ ]  N/A [ ]  Yes [ ]  No [ ]  N/A [ ]  |
| Day tanks: 1-day capacity | Yes [ ]  No [ ]  N/A [ ]  |
| Overflow pipes (when provided):* Turned downward & screened (when located outside)
* Free discharge
* Location noticeable
* Directed away, no contamination, non-hazardous
* Receiving basin or drain capable of receiving accidental spills or overflows
 | Yes [ ]  No [ ]  N/A [ ] Yes [ ]  No [ ]  N/A [ ] Yes [ ]  No [ ]  N/A [ ] Yes [ ]  No [ ]  N/A [ ] Yes [ ]  No [ ]  N/A [ ]  |
| SOLUTION, SLURRY FEED LINES |
| Cleanable, scale formation & deposition prevented | Yes [ ]  No [ ]  |
| Freeze protection | Yes [ ]  No [ ]  |
| Durable; Corrosion-resistant material | Yes [ ]  No [ ]  |
| Corrosion potential minimized at application point | Yes [ ]  No [ ]  |
| Vacuum relief, air gap, or other device provided to prevent siphoning of chemical Anti-siphon valve specified for diaphragm pump? | Yes [ ]  No [ ]  Yes [ ]  No [ ]  N/A [ ]  |
| Upward sloping and de-gas valve for sodium hypochlorite feed (suggested) | Yes [ ]  No [ ]  N/A [ ]  |
| Liquid alum not mixed with water before application point | Yes [ ]  No [ ]  N/A [ ]  |
| SERVICE WATER SUPPLY FOR DISSOLUTION, DILUTION, TRANSPORT |
| Safe & approved source | Yes [ ]  No [ ]  N/A [ ]  |
| Backflow prevention (RPZ or vacuum relief as needed) | Yes [ ]  No [ ]  N/A [ ]  |
| Enters tank above rim, > 2 pipe diam, not < 2-inch | Yes [ ]  No [ ]  N/A [ ]  |
| Adequate supply and pressure | Yes [ ]  No [ ]  N/A [ ]  |
| Means to measure quantity for dilutions | Yes [ ]  No [ ]  N/A [ ]  |
| Treated for hardness (where necessary) | Yes [ ]  No [ ]  N/A [ ]  |
| SPECIAL SERVICE |
| 1 | Fluoride feeders provided with loss-of-weight recorder | Yes [ ]  No [ ]  N/A [ ]  |
| 2 | Phosphate solution tanks covered  | Yes [ ]  No [ ]  N/A [ ]  |

**Calculations (if design notes not provided):**

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