**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 Range  Min  Max | 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 required  100% 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):**

Click or tap here to enter text.