

Standard Operating Procedure (SOP)

Water System Name _____

| General System Information | | | |
|---------------------------------|--|--------------------------------------|--|
| <i>PWS Name</i> | | PWSID# NY _____ | |
| <i>SOPs Prepared by</i> | | <i>Date prepared</i> | |
| <i>SOPs Updated by</i> | | <i>Date Updated</i> | |
| <i>Street address of system</i> | | <i>Number of service connections</i> | |
| <i>Town</i> | | <i>Number of people served</i> | |
| <i>Zip code</i> | | <i>Source type (GW, SW, GWUDI)</i> | |
| <i>County</i> | | <i>Total source capacity (gpm)</i> | |
| <i>Comments</i> | | | |
| System Notes | | | |
| | | | |
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| Tips on Using this SOP Template |
|---|
| <p>This SOP template is available in MS Word format (doc) or in Portable Document Format (pdf)</p> <ul style="list-style-type: none"> • The MS Word template entry spaces will expand as needed to accept your information. • The MS Word template can be easily modified with added rows to meet your needs. • The PDF format is not easily modified, but can be printed with the Adobe Reader software, available free at http://get.adobe.com/reader/ |
| <p>Modifying this SOP template in MS Word (instructions work for MS Word 2003 and older)</p> <ul style="list-style-type: none"> • To delete a row, place the cursor in the row you want to delete. From the pull-down menu at the top of the page select: Table – Delete – Rows. • To add a row, place the cursor in the row below where you want a new row, then select: Table – Insert Row or place the cursor in the last field of the table (bottom-right) and hit the tab key. • To delete an unneeded table, highlight the entire table and hit - Delete • To add a whole new table, locate your cursor where you want it added. From the pull-down menu at the top of the page select: Table – Insert Table – enter the number of columns and rows you need - Choose OK. Alternately, you can cut and paste an existing table at this location and then modify it as needed. |
| <ul style="list-style-type: none"> • Post your completed template or individual pages where convenient to use and accessible to all operators. • Update the template when needed for new equipment, changes in system operation, contact info, etc. • Consider laminating pages that are posted in humid areas or around chemicals. |
| <p>These SOPs will help provide consistent, effective practices by system operators and allow unfamiliar operators to provide help if needed. The SOPs may not cover all regulatory requirements of the State Sanitary Code (10NYCRR SubPart 5-1) and should not be relied on for this purpose.</p> |

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| Contact Information | | | | |
|--|-------------|-----------------------------|-------------------------------|--------------|
| | <i>Name</i> | <i>Primary Phone Number</i> | <i>Emergency Phone Number</i> | <i>Email</i> |
| <i>Owner</i> | | | | |
| <i>Owners Rep or Manager</i> | | | | |
| <i>Operator in Charge</i> | | | | |
| <i>Assistant Operator</i> | | | | |
| <i>Health Dept Contact</i> | | | | |
| <i>Health Dept After Hours</i> | | | | |
| <i>Water Testing Lab</i> | | | | |
| <i>Water Testing Lab</i> | | | | |
| <i>Chlorine Supplier</i> | | | | |
| <i>Chemical Supplier</i> | | | | |
| <i>Equipment Vendor</i> | | | | |
| <i>Equipment Vendor</i> | | | | |
| <i>Pump Supplier</i> | | | | |
| <i>Plumber</i> | | | | |
| <i>Excavator</i> | | | | |
| <i>Electrician</i> | | | | |
| <i>Power Company</i> | | | | |
| <i>Water Hauler</i> | | | | |
| <i>Engineer</i> | | | | |
| <i>NYRWA Circuit Rider</i> | | | | |
| | | | | |
| | | | | |
| <i>NYSDEC 24/7 Spill Reporting Hotline</i> | | | (800) 457-7362 | |
| <i>SEMO 24/7 Emergency</i> | | | (518) 292-2200 | |

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| Sources – Groundwater and GWUDI | | | | | | | |
|--|---|------------------------|-------------------------|------------------------|----------------------------|----------------------------------|--|
| <i>Source Name and Location</i> | <i>Well type, spring, or other source</i> | <i>Well depth (ft)</i> | <i>Safe yield (gpm)</i> | <i>Pump rate (gpm)</i> | <i>Pump set depth (ft)</i> | <i>Pump Make, Model & HP</i> | <i>Source use (primary, auxiliary, emerg.)</i> |
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| System Pumps | | | |
|----------------------------|----------------------------------|------------------------|---|
| <i>Pump Name, Location</i> | <i>Pump Make, Model & HP</i> | <i>Pump Rate (gpm)</i> | <i>Comments (pump control method, etc.)</i> |
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| Treatment - Liquid Chlorine (hypochlorite) | | | |
|---|---|--|--|
| <i>Undiluted strength (5%, 12.5%, etc.)</i> | | <i>Target chlorine residual at entry point to system (ppm)</i> | |
| <i>Day tank capacity (gal)</i> | | <i>Chlorine to water mix ratio</i> | |
| <i>Day tank filling instructions</i> | | <i>Pump make and model</i> | |
| | | <i>Maximum pump rate (gpm or gph)</i> | |
| | | <i>Typical pump speed and stroke settings</i> | |
| MSDS | MSDS sheet posted where chemical is stored and used and copy is attached here | | |
| <i>Chemical supplier name and contact information</i> | | | |
| Comments | | | |

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| Storage | | | |
|------------------------------------|--------------------------------|----------------------|---|
| <i>Storage Tank Name, Location</i> | <i>Pressure or Atmospheric</i> | <i>Storage (gal)</i> | <i>Comments (operating levels, cleaning methods, frequency, etc.)</i> |
| | | | |
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| Operating Pressures | | | |
|---------------------------------------|------------|-------------|-----------------|
| | <i>Low</i> | <i>High</i> | <i>Comments</i> |
| <i>System pressure settings (psi)</i> | | | |

| Distribution System | | |
|--|-----------------|----------------------------|
| <i>Type of Pipe</i> | | |
| <i>Distribution main size(s)</i> | | |
| <i>Service connection shut-off locations</i> | | |
| <i>Number of main valves</i> | | |
| <i>Valve Name or #</i> | <i>Location</i> | <i>Shuts off what area</i> |
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| Sample Sites | | | | | | |
|---------------------|---------------------------------------|-----------------|-----------------------|--------------------------------|--------------------------|--------------|
| Description | Location/Address/Resident Name | Chlorine | Total Coliform | Disinfection Byproducts | Lead & Copper | Other |
| <i>Raw Water</i> | | | | | | |
| " " | | | | | | |
| <i>Entry Point</i> | | | | | | |
| " " | | | | | | |
| <i>Distribution</i> | | | | | | |
| | | | | | | |
| | | | | | | |

| Back-Up Power | |
|--|--|
| <i>Onsite Generator - make, model, elec capacity, fuel type, fuel storage</i> | |
| <i>Offsite Generator - capacity, source, contact info, transportation</i> | |
| <i>Power Transfer - transfer switch type, location, step by step procedures</i> | |
| <i>Exercise schedule and procedures</i> | |

Standard Operating Procedure (SOP)
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| Treatment - Other Chemical (e.g. corrosion control) | | | |
|--|---|--|--|
| <i>Chemical name</i> | | <i>Commercial product strength (pH, %, etc.)</i> | |
| <i>Reason for use</i> | | <i>Target residual and sample location</i> | |
| <i>Day tank capacity (gal)</i> | | <i>Day tank mix ratio</i> | |
| <i>Day tank filling instructions</i> | | <i>Pump make and model</i> | |
| | | <i>Maximum pump rate (gpm or gph)</i> | |
| | | <i>Typical pump speed and stroke settings</i> | |
| MSDS | MSDS sheet posted where chemical is stored and used and copy is attached here | | |
| Chemical supplier name and contact information | | | |
| Comments | | | |

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| Treatment - Ultraviolet Disinfection | | | |
|--|--|---|--|
| <i>Make and Model</i> | | <i>Design flow rate (gpm)</i> | |
| <i>Target intensity meter reading (%)</i> | | <i>Quartz sleeve cleaning frequency</i> | |
| <i>Spare parts available (e.g. quartz sleeve, bulb, and o-rings)</i> | | | |
| <i>Describe cleaning & bulb replacement procedures</i> | | | |
| <i>Service name and contact information</i> | | | |
| <i>Comments</i> | | | |

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| Treatment - Other (e.g. cartridge filtration, softening, etc.) | | | |
|--|--|-------------------------------|--|
| <i>Treatment description</i> | | <i>Design flow rate (gpm)</i> | |
| <i>Describe maintenance, parts replacement and backwash procedures</i> | | | |
| <i>Service name and contact information</i> | | | |
| <i>Comments</i> | | | |

Standard Operating Procedure (SOP) Tasks Calendar

| PWS Name: | |
|---|---|
| Schedule for Daily Tasks: | |
| Task | Notes |
| Collect entry point free chlorine residual sample and record on monthly operation report | The free chlorine residual should be at least ___ mg/l at the entry point to the system. |
| Check chlorine day tank, record amount used, and refill as needed | When the level in the chlorine day tank is down to ___ gals add ___ qts/gals of ___ % chlorine and ___ gals of water. |
| Inspect chlorine feed pump(s) | Confirm chemical is pumping correctly and there are no air bubbles trapped in the feed line, etc. |
| Record water plant meter readings & calculate total daily production | Average day demand in summer is _____ gals per day (gpd) and in winter is _____ gpd. If demands are higher than this for more than three days, there may be a leak. |
| Record pump run times and start cycles | Pumps normally run _____ hours per day in the summer and _____ hours per day in the winter. |
| Conduct a general security check | Inspect windows, doors, hatches, screens, well caps, fences, gates, lighting, locks, and alarms. Check if locked or set, look for tampering or vandalism. |
| Collect other chemical samples as needed | The measured amount of _____ should be at least ___ mg/l at this sample location _____. |
| | The measured amount of _____ should be at least ___ mg/l at this sample location _____. |
| | The measured pH should be within range _____ at this sample location _____. |
| Check other chemical day tank, record amount used, and refill as needed | When the level in the _____ day tank is down to ___ gals add ___ qts/gals chemical and ___ gals of water. |
| Inspect other chemical feed pump(s) | Confirm chemical is pumping correctly and there are no air bubbles trapped in the feed line, etc. |
| Check and record water levels in storage tanks | The storage tank normally operates between _____ - _____ feet of water. |
| Check other treatment processes such as cartridge filters or softeners | Cartridge filters need to be changed when the head loss is greater than ___ psi. Recharge softener with salt as needed. |
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Standard Operating Procedure (SOP) Tasks Calendar

| PWS Name: | | | | | | | | | | | | | |
|--|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Schedule of Tasks for the Year: | | | | | | | | | | | | | |
| <i>° Place an "x" in each month that the task is required or planned to be performed, then enter the date or a "✓" when task is completed.</i> | | | | | | | | | | | | | |
| Task | Frequency | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Submit previous month's operation report to DOH by the 10 th | Monthly | | | | | | | | | | | | |
| Check distribution system chlorine residual | __ times per Month | | | | | | | | | | | | |
| Collect Total Coliform Sample(s) | Quarterly | | | | | | | | | | | | |
| Exercise emergency generator for 30 minutes under full load conditions and check all fluid and fuel levels | Monthly | | | | | | | | | | | | |
| Inspect wellheads, controls, seals, vent and screen. | Monthly | | | | | | | | | | | | |
| Inspect tank overflow, vent screens, and hatches | Monthly | | | | | | | | | | | | |
| Inspect chemical feed pump(s), seals, tubing, injection points etc. | Monthly | | | | | | | | | | | | |
| Lubricate pumps, motors, blowers, and all moving/rotating equipment | Quarterly | | | | | | | | | | | | |
| Inspect all pump house water lines, gaskets and fittings for corrosion and leaks | Quarterly | | | | | | | | | | | | |

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| <i>° Place an "x" in each month that the task is required or planned to be performed, then enter the date or a "✓" when task is completed.</i> | | | | | | | | | | | | | |
| Task | Frequency | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Clean and inspect chemical solution tanks | Quarterly | | | | | | | | | | | | |
| Calibrate chemical feed pumps | Quarterly | | | | | | | | | | | | |
| Review the attached DOH supplied sampling requirements chart, and collect any that are due | Quarterly | | | | | | | | | | | | |
| Flush dead end lines in distribution system | ____ times per year | | | | | | | | | | | | |
| Flush distribution system using unidirectional flushing plan and exercise all valves | 1-2 times per year | | | | | | | | | | | | |
| Prepare and distribute Annual Water Quality Report (AWQR) to Consumers | Annual | | | | | | | | | | | | |
| Submit AWQR to Health Dept and DEC, include certification that AWQR was delivered to consumers | Annual | | | | | | | | | | | | |
| Update emergency plan and emergency contact information, provide update info to Health Dept | Annual | | | | | | | | | | | | |

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| Task | Frequency | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Inspect storage tanks for defects, leaks, and sanitary deficiencies - clean and repair as needed | Annual | | | | | | | | | | | | |
| Confirm all backflow prevention devices are tested by a certified tester | Annual | | | | | | | | | | | | |
| Exercise all fire hydrants and check all fire hydrant valves | Annual | | | | | | | | | | | | |
| Clean, inspect and repair all safety equipment | Annual | | | | | | | | | | | | |
| Perform building preventative maintenance | Annual | | | | | | | | | | | | |
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