APPENDIX A

EXAMPLES OF CHECKLISTS
Checklist “A”
Applicability of Process Memorandum 97-005 for a Contaminated Source

☐ Does the contamination source meet the definition of an Extremely Impaired Source?

☐ Contains a contaminant that exceeds 10 times its [ ] Maximum Contaminant Level (MCL) or [ ] Notification Level (NL) based on chronic health effects. **Chronic health effects are based on long-term exposure to a contaminant. Examples include Volatile Organic Compounds (VOCs) such as PCE and TCE, and Inorganic Chemicals such as arsenic.**

☐ Contains a contaminant that exceeds 3 times its [ ] MCL or [ ] NL based on acute health effects. **Acute health effects are associated with the instantaneous exposure to a contaminant. Examples include Nitrate-Nitrogen and Perchlorate.**

☐ Contains one or more contaminants that meet any one of the criteria of the four points above and the source has not been adequately characterized by responsible parties.

☐ Is a surface water source, which requires more than 4 log Giardia/5 log virus reduction.

☐ Is a surface water source that on an annual average contains more than five percent treated waste water, unless it is associated with an approved drinking water-related surface augmentation project.

☐ Is extremely threatened with contamination due to known contaminating activities within the long-term, steady-state capture zone of a drinking water well or within the watershed of a surface water intake.

☐ Contains a mixture of contaminants of health concern beyond what is typically seen in terms of number and concentration of contaminants.

☐ Is designed to intercept known contaminants of health concerns.

**Note:** If the PWS checks any of the boxes above, it is strongly encouraged to contact its DDW representatives before proceeding with planned treatment.
Checklist “B”

Preliminary Data Submitted to DDW for a Potential Extremely Impaired Source

☐ Description of the Source
  ☐ Location
  ☐ Well Control Zone
  ☐ Local Hydrogeology
  ☐ Preliminary Design Report for Well

☐ Copy of Drinking Water Source Assessment Plan

☐ Excel file of groundwater quality in the vicinity of the well to be treated over prior 10 years.

☐ Summary of Process Memo 97-005 applicability (or not).
Checklist “C”
Development of Process Memo 97-005 Documentation

☐ Initial Meeting with DDW to discuss expectations.
☐ Provisions of Process Memo 97-005
☐ Timeline

☐ DDW staff expectations
  ☐ Timeline
  ☐ Submittal Process (Section-by-section)
  ☐ DDW staff review

☐ Ancillary Documents/Tasks
  ☐ CEQA
  ☐ OMMP
  ☐ Start-up Test Plan
  ☐ Treated Water Discharge Permits
  ☐ MS4 Permit
  ☐ Amended Water Supply Permit Application
  ☐ Conceptual and final Design drawing and Specifications
Checklist “D”

Components of Process memo 97-005

(with References to Applicable Section of Process Memo 97-005)

☐ Five Primary Components
  ☐ Drinking Water Source Assessment (D.1.a) and Contaminant Assessment (D1.b)
  ☐ Full Characterization of Raw Water Quality (D.2)
  ☐ Drinking Water Source Protection (D.3)
  ☐ Effective Treatment and Monitoring (D.4)
  ☐ Evaluation of Human Health Risks Associated with the

☐ Six Secondary Components
  ☐ CEQA
  ☐ Amended Water Supply Permit Application
  ☐ Public Hearing
  ☐ DDW Evaluation
  ☐ Requirements of DDW Approval
  ☐ Issuance or Denial of Permit

☐ Ancillary Documents
  ☐ Preparation of Operating, Maintenance, and Monitoring Plan
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PLATE 1.3 PLANT SITE LAYOUT
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### Event Tree For General Power Failure

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
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<tbody>
<tr>
<td>Well No. 3 and Treatment Facility</td>
<td>Failure due to General Power Grid Failure</td>
</tr>
<tr>
<td>After Return of Power Operator Manually</td>
<td>System for Proper Start Up of Treatment Facility</td>
</tr>
<tr>
<td>Central Computer System</td>
<td>Successfully restarted Water served is fully treated</td>
</tr>
<tr>
<td>Well and treatment facility is shutdown.</td>
<td>Water is not served. Operator to check all settings and troubleshoot reason for treatment facility not starting.</td>
</tr>
<tr>
<td>Well and treatment facility will not restart until system is manually reset by the operator.</td>
<td></td>
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</table>
APPENDIX E

HEALTH RISK ASSESSMENT TABULATION
### VOLATILE ORGANIC COMPOUNDS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>TRICHLOROETHYLENE (1,1,2-TCE)</strong></td>
<td>5</td>
<td>NA</td>
<td>0.8</td>
<td>1000</td>
<td>25.34</td>
<td>0.000276</td>
<td>0.028540</td>
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<tr>
<td><strong>TETRACHLOROETHYLENE (PCE)</strong></td>
<td>5</td>
<td>NA</td>
<td>0.06</td>
<td>11</td>
<td>1.77</td>
<td>0.000726</td>
<td>0.156990</td>
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<tr>
<td><strong>CARBON TETRACHLORIDE (CT)</strong></td>
<td>0.5</td>
<td>NA</td>
<td>0.1</td>
<td>2</td>
<td>0.76</td>
<td>0.000430</td>
<td>0.025547</td>
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<tr>
<td><strong>1,1-DICHLOROETHANE (1,1-DCE)</strong></td>
<td>0.5</td>
<td>NA</td>
<td>0.4</td>
<td>10</td>
<td>0.48</td>
<td>0.000041</td>
<td>0.000235</td>
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<tr>
<td><strong>1,2-DICHLOROETHANE (1,2-DCE)</strong></td>
<td>0.5</td>
<td>NA</td>
<td>0.1</td>
<td>5</td>
<td>0.28</td>
<td>0.000012</td>
<td>0.000099</td>
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<tr>
<td><strong>DIE 1,2-DICHLOROETHANE (C2 coke)</strong></td>
<td>0</td>
<td>NA</td>
<td>0.1</td>
<td>10</td>
<td>0.28</td>
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<td>0.000099</td>
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<tr>
<td><strong>CHLORODIFLUOROMETHANE (Freon-12)</strong></td>
<td>30</td>
<td>NA</td>
<td>1</td>
<td>78</td>
<td>1.49</td>
<td>0.000117</td>
<td>0.025547</td>
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<tr>
<td><strong>TRICHLOROMETHANE (CHLOROFORM)</strong></td>
<td>30</td>
<td>NA</td>
<td>1</td>
<td>78</td>
<td>1.49</td>
<td>0.000117</td>
<td>0.025547</td>
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### INORGANIC CHEMICALS

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<tr>
<td><strong>BARIUM</strong></td>
<td>1000</td>
<td>NA</td>
<td>2000</td>
<td>HEART</td>
<td>160</td>
<td>0.080000</td>
<td>0.377778</td>
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<tr>
<td><strong>NITRITE</strong></td>
<td>1000</td>
<td>NA</td>
<td>4000</td>
<td>BLOOD</td>
<td>44000</td>
<td>9.774970</td>
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### CONTAMINANTS OF CONCERN

<table>
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<tr>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>N-NITROSODIMETHYLAMINE</strong></td>
<td>NA</td>
<td>0.01</td>
<td>0.01</td>
<td>NA</td>
<td>LIVER</td>
<td>0.002263</td>
<td>NE</td>
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<tr>
<td><strong>PERCHLORATE</strong></td>
<td>NA</td>
<td>0.06</td>
<td>0.06</td>
<td>THYROID</td>
<td>0.000000</td>
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<tr>
<td><strong>1,2-DIOXANE</strong></td>
<td>NA</td>
<td>3</td>
<td>3</td>
<td>LIVER/KIDNEY</td>
<td>0.000000</td>
<td>NE</td>
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### TOTAL RISK OR HAZARD INDEX

<table>
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<tr>
<th>NON-CANCER HAZARD INDEX BY TARGET ORGAN</th>
<th>CANCER RISK [1x10^-6]</th>
<th>NON-CANCER HAZARD INDEX</th>
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<tr>
<td>Heart</td>
<td>0.000000</td>
<td>5.777778</td>
</tr>
<tr>
<td>Body weight</td>
<td>0.000263</td>
<td>0.000263</td>
</tr>
<tr>
<td>Thyroid</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0.010177</td>
<td>9.774970</td>
</tr>
</tbody>
</table>

---

**NOTES**

- a) RECENT CONCENTRATION IN WATER [ug/l].
- b) CANCER RISK IS CALCULATED FOR A PROJECTIVE LIFE OF 30 YEARS. EVENTS OCCUR FOR 24 HOURS, ONCE EVERY 10 YEARS.
- c) CANCER RISK = CONCENTRATION/CANCER RISK PHG(10 DAYS/10 YEARS)/365 DAYS/YEAR (70 YEARS).
- d) CANCER INDEX = CONCENTRATION x NON-CANCER RISK PHG.
- e) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR TETRACHLOROETHYLENE IN DRINKING WATER" OEHHA FEBRUARY 1999.
- f) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR TETRACHLOROETHYLENE IN DRINKING WATER" OEHHA AUGUST 2001.
- g) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR TETRACHLOROETHYLENE IN DRINKING WATER" OEHHA SEPTEMBER 2003.
- h) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR 1,1-DICHLOROETHANE IN DRINKING WATER" OEHHA FEBRUARY 1999.
- i) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR 1,2-DICHLOROETHANE IN DRINKING WATER" OEHHA MAY 2004.
- k) CANCER PHG FROM OEHHA PROP 59 NO SIGNIFICANT RISK VALUE, ADJUSTED TO A 10B RISK, NON-CANCER PHG AND TARGET ORGAN FROM "TOXICOLOGICAL REVIEW OF CHLOROFORM" IRS OCTOBER 2001.
- l) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR NITRATE AND NITRITE IN DRINKING WATER" OEHHA DECEMBER 1997.
- m) CANCER RISK PHGS FROM "PUBLIC HEALTH GOAL FOR BARIUM IN DRINKING WATER" OEHHA SEPTEMBER 2002.
- n) CANCER PHGS FROM "PUBLIC HEALTH GOAL FOR THYROID DISORDERS IN DRINKING WATER" OEHHA MARCH 2004.
- o) CANCER PHGS FROM "PUBLIC HEALTH GOAL FOR PERCHLORATE IN DRINKING WATER" OEHHA SEPTEMBER 2003.
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       VOC Facility ................................................................................................................
       Booster Pumps ............................................................................................................
       Ion Exchange Facility .................................................................................................
       UV Reactor ................................................................................................................
       Booster Pumps ............................................................................................................
       Flow Control Valves .................................................................................................
       Electrical Control Panel ............................................................................................
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- Sulfate
- Nitrate
- NDMA
- 1,4-Dioxane
- Oxidation Byproducts
- Bacteriological and HPC
- Total Dissolved Solids
- Alkalinity and Hardness
- Percent Sodium Chloride
- Temperature
- pH
- Chlorine Residual

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UV MAINTENANCE CHECKLIST
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MONTHLY LOG OF WATER QUALITY ANALYSES
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LIST OF AMENDED WATER SUPPLY PERMITS

(JUNE 2020)
### Appendix G
**Extremely Impaired Sources Producing Potable Drinking Water**

**SWRCB-DDW permits issued**

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Water System Name</th>
<th>Water System Number</th>
<th>Permit Number</th>
<th>Permit Date</th>
<th>City Served</th>
<th>County</th>
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<tr>
<td>San Fernando Valley Area 2 (GOU)</td>
<td>City of Glendale</td>
<td>1910043</td>
<td>04-15-00PA-000</td>
<td>7/1/2000</td>
<td>Glendale</td>
<td>Los Angeles</td>
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<td>San Gabriel Valley Area 1 (EMOU)</td>
<td>City of El Monte</td>
<td>1910038</td>
<td>04-16-99PA-000</td>
<td>7/7/1999</td>
<td>Portion of El Monte</td>
<td>Los Angeles</td>
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<tr>
<td></td>
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<td></td>
<td>1910038PA-001</td>
<td>6/10/2003</td>
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<td></td>
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<td>1910038PA-002</td>
<td>2/26/2016</td>
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<td></td>
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<td></td>
<td>1910038PA-004</td>
<td>1/25/2019</td>
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<tr>
<td>San Gabriel Valley Area 2 (BPOU)</td>
<td>Golden State Water Company - South San Gabriel Monterey Park</td>
<td>1910223</td>
<td>04-07-01PA-000</td>
<td>10/24/2001</td>
<td>parts of Rosemead and San Gabriel</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>San Gabriel Valley Area 1 (SEMOU)</td>
<td>San Gabriel Valley Water Company (Plant 8)</td>
<td>1910039</td>
<td>1910039PA-001</td>
<td>7/18/2002</td>
<td>A portion of the cities of West Covina, La Puente, Industry, Irwindale, Baldwin Park, Arcadia, El Monte, Rosemead, South El Monte, San Gabriel, Monterey Park, Montebello, Santa Fe Springs, Pico Rivera and Whittier, and the nearby unincorporated Los Angeles County areas</td>
<td>Los Angeles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1910039PA-006</td>
<td>9/29/2006</td>
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<tr>
<td>Valley County Water District</td>
<td>Valley County Water District</td>
<td>1910009</td>
<td>1910009PA-003</td>
<td>11/7/2005</td>
<td>Water from Lante treatment plant is mainly wholesaled to Suburban Water Systems - San Jose. Population served is based on the Suburban system.</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>San Gabriel Valley Water Company (B6 Plant)</td>
<td>San Gabriel Valley Water Company (B6 Plant)</td>
<td>1910039</td>
<td>1910039PA-002</td>
<td>6/13/2005</td>
<td>A portion of the cities of West Covina, La Puente, Industry, Irwindale, Baldwin Park, Arcadia, El Monte, Rosemead, South El Monte, San Gabriel, Monterey Park, Montebello, Santa Fe Springs, Pico Rivera and Whittier, and the nearby unincorporated Los Angeles County areas</td>
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<td>1910039</td>
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<td>A portion of the cities of West Covina, La Puente, Industry, Irwindale, Baldwin Park, Arcadia, El Monte, Rosemead, South El Monte, San Gabriel, Monterey Park, Montebello, Santa Fe Springs, Pico Rivera and Whittier, and the nearby unincorporated Los Angeles County areas</td>
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<td>A Regional whole saler serving the following water systems in the Santa Clarita Valley: Los Angeles County Water Works District #36 (LACWWD #36), SCVWA-Santa Clarita Division, SCVWA-Valencia Division, SCVWA-Castaic Division, SCVWA-Pinetree Division, SCVWA-Newhall Division, and the SCVWA-Tesoro Division. The service area of LACWWD #36 includes Hasley Canyon and the community of Val Verde. The SCVWA-Castaic Division, SCVWA-Pinetree Division, SCVWA-Newhall Division, and SCVWA-Tesoro Division serve the communities of Castaic, Pinetree, Newhall and the Tesoro Del Valle Development, respectively. The SCVWA-Santa Clarita Division’s service area includes the City of Santa Clarita and unincorporated portions of Los Angeles County in the communities of Saugus, Canyon Country, and Newhall. The SCVWA-Valencia Division serves the communities of Valencia, Stevenson Ranch, and portions of Saugus and Castaic.</td>
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<td>Alhambra OU</td>
<td>City of Alhambra</td>
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<td>Jet Propulsion Lab</td>
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<td>Lincoln Avenue Water Company</td>
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<td>Santa Monica OU</td>
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<td>Rockets, Fireworks, Flares</td>
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<td>05-13-16PA-010</td>
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<td>West Valley WD (fixed bed reactor)</td>
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<td>San Bernardino County Mid-Valley Sanitary Landfill</td>
<td>Rialto, City of (Rialto 3)</td>
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<td>5/6/2006</td>
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<td>San Bernardino</td>
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<td>Loma Linda, City of</td>
<td>3610013</td>
<td>05-13-10PA-018</td>
<td>8/25/2010</td>
<td>Loma Linda</td>
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### Appendix G

**Extremely Impaired Sources Producing Potable Drinking Water**

**SWRCB-DDW permits issued**

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Water System Name</th>
<th>Water System Number</th>
<th>Permit Number</th>
<th>Permit Date</th>
<th>City Served</th>
<th>County</th>
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<tr>
<td>Crafton Redlands Plume</td>
<td>Riverside, City of (Sunnyside)</td>
<td>3310031</td>
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<td>Riverside, City of (Gage Well 46 1R))</td>
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<td>Riverside, City of (Raub)</td>
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<td>Norton AFB</td>
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<td>Newmark Groundwater Contamination</td>
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<td>3610019</td>
<td>03-13-99P-002</td>
<td>12/30/1999</td>
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<td>San Bernardino, City of (Waterman GAC)</td>
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<td>12/30/1999</td>
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<td>San Bernardino, City of (Waterman PTA)</td>
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<td>03-13-99P-002</td>
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<td>Chino GW Basin (No OU identified)</td>
<td>Chino Desalter Authority (Chino 1 Desalter)</td>
<td>3610075</td>
<td>03-13-02P-001</td>
<td>6/4/2002</td>
<td>Chino, Chino Hills, Ontario, Jurupa Valley</td>
<td>Riverside, San Bernardino</td>
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<td>South Archibald Plume</td>
<td>Chino Desalter Authority (Chino 2 Desalter)</td>
<td>3310083</td>
<td>Pending</td>
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<td>Ontario, Jurupa Valley, Norco</td>
<td>Riverside, San Bernardino</td>
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Summary of
State Water Resources Control Board
Division of Drinking Water (DDW)
Action Levels

**Maximum contaminant levels (MCLs)** \(^1\) are adopted by the State as regulations. They are health-protective drinking water standards to be met by public water systems. State MCLs must be at least as stringent as federal MCLs and as close as technically and economically feasible to public health goals (PHGs; see below). MCLs take into account not only chemicals' health risks but also factors such as their detectability, treatability, and cost of treatment. MCLs are adopted in a public process with public review and comment. Along with the MCL, a regulated chemical also has a **detection limit for purposes of reporting (DLR)**, which is the level at which we are confident about the concentration reported by a laboratory. DDW conducts an **MCL review process at least every five years** and includes the following steps:

1. **Initial screening**
   a. Compare the PHG to existing federal and state MCLs;
   b. Evaluate changes in treatment technology(ies); and
   c. Evaluate changes in risks to human health.
   d. Evaluate the occurrence of the regulated contaminant in public water supplies.

2. **Base available analytical data on the DLR values for consistency.**

\(^1\) [https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/MCLReview.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/MCLReview.html) and [https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/MCLsandPHGs.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/MCLsandPHGs.html)
Following this process, MCL values can either decrease or increase in response to changes in PHG values or other factors. Importantly, however, an MCL for a regulated contaminant cannot be established until a PHG has been determined by OEHHA.

Public Health Goals (PHGs)² are established by OEHHA as concentrations of drinking water contaminants that pose no significant health risk if consumed for a lifetime, based on current risk assessment principles, practices, and methods. PHGs are used by the PWS to inform customers of water quality in annual Consumer Confidence Reports. OEHHA does not consider economic or technological feasibility when establishing PHGs, and PHGs are not regulatory standards.

Notification Levels (NLs)³⁴ are health-based advisory levels that are established by DDW for chemicals that do not have MCLs. NLs are calculated using standard risk assessment methods by OEHHA for non-cancer and cancer endpoints, and NLs do not consider the capabilities of available treatment technologies, analytical capabilities, or cost of compliance. For non-carcinogens, the NL is derived from the no observable adverse effect level (NOAEL), adjusted by appropriate uncertainty factors to scale from laboratory animal studies to human exposures, and other considerations used in standard human health risk assessments. For carcinogens, the NL is considered to pose “de minimis” risk (i.e., a theoretical lifetime risk of up to one excess case of cancer in a population of 1,000,000 people – the 10⁻⁶ risk level). NLs may either remain in place indefinitely or be replaced with an MCL. For example, of the 93 chemicals for which an NL has been established, 40 are now associated with an MCL – of the remaining 53

² https://oehha.ca.gov/water/public-health-goals-phgs
³ https://oehha.ca.gov/water/notification-levels-chemicals-drinking-water
⁴https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/notificationlevels/notification_levels_response_levels_overview.pdf
chemicals, 29 have current NLs and 24 are associated with archived action levels. Once an MCL has been adopted, the NL is no longer used.

**Response Levels (RLs)**⁵ are established by DDW for certain chemicals as the concentration that would require a source to be taken out of service. The RL is equal to a $10^{-4}$ risk level for contaminants considered to pose a carcinogenic risk, and 10 times the NL for non-carcinogens.

**USEPA Health Advisory Levels**⁶ are non-enforceable and non-regulatory levels that provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. HA values are provided for certain contaminants based on non-cancer health effects and are a function of the duration of exposure (e.g., one-day, ten-day, lifetime). The Lifetime HA is the concentration of a chemical in drinking water that is not expected to cause any adverse noncancerous effects for a lifetime of exposure, calculated using the oral Reference Dose and incorporating a drinking water Relative Source Contribution factor of contaminant-specific data or a default of 20 percent of total exposure from all sources.

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⁵[https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/notificationlevels/notification_levels_response_levels_overview.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/notificationlevels/notification_levels_response_levels_overview.pdf)