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| **Project Name:** |  | **Date:** |  |
| **Engineer Name:** |  | **AK P.E. License No.:** |  |
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| This checklist is required for the construction of a new or modification of an existing treatment system not applicable to any other treatment checklist.  **Note:** When completing this checklist, please answer the question and also include where in the submittal detailed information is found for each submittal requirement. Please be as specific as possible (specify document name, page number, section number, paragraph, etc.). This will accelerate the review process. | | | |

| **Submittal Requirements** | ***Regulatory Reference*** |
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| 1. **Treatment Objectives:** What are the treatment objectives including any contaminant(s) of concern? This should include how the proposed treatment was selected and its suitability for treating the full range of raw water quality expected from this water source. | *18 AAC 80.205(a)(4)*  *18 AAC 80.205(b)(5)* |
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| 1. **Water Quality:** Are results of laboratory analyses included of untreated water for contaminant(s) the proposed treatment system is being designed to remove, and is the range of values for each contaminant discussed (i.e. seasonal variability)? | *18 AAC 80.205(c)* |
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| 1. **Design Documents:** Does the submittal include drawings and specifications for construction of the treatment system? | *18 AAC 80.205(a)(2)* |
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| 1. **Design Calculations:** Do the design calculations cover efficiency and effectiveness of the proposed treatment process? | *18 AAC 80.205(a)(4)* |
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| 1. **Alternative Filtration:** For filtration using cartridge or bag filters, does the engineer identify and justify the type(s) of proposed units? The submittal will need to include make and model of the filters as well as information on the maximum flow rate and differential pressure for each filter selected. Estimates of intervals between filter changing will be needed to address the suitability of this technology for this water quality as well as how and where the spent filters will be disposed. | *18 AAC 80.205(b)(9)* |
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| 1. **Chemical Feed:** If the submittal includes chemical feed systems, is the following documented?: 2. Make and model of the chemical feed pump(s) 3. Chemical feed pump’s suitability for the chemical being injected 4. Calculations showing pump is properly sized for the water flow rates and chemical dosages necessary 5. Chemical feed system has appropriate overfeed protection | *18 AAC 80.205(b)(9)*  *18 AAC 80.025* |
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| 1. **Effects on Other Unit Processes:** If the treatment will be installed in an existing public water system, is an evaluation included of potential effects from water quality changes (e.g. pH and corrosivity) on downstream processes and the distribution system? Any mitigating treatment (e.g. corrosion inhibitors, blending, pH adjustment) should also be described. | *18 AAC 80.205(b)(9)* |
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| 1. **Monitoring Scheme:** Has a description of the monitoring scheme that will be used to assess process efficiency and reliability during daily operation been included? | *18 AAC 80.205(c)(1)* |
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| 1. **Sample Taps**: Is there a design drawing showing the location of compliance and operational sample points in the water treatment plant? Is there a specification requiring the project to provide fixed labels on all compliance sample taps? | *18 AAC 80.655*  *18 AAC 80.205(c)(6)* |
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| 1. **Manufacturer’s Specifications:** Are detailed manufacturer's specifications for the proposed equipment included in the submittal? | *18 AAC 80.205(a)(2)* |
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| 1. **Performance Verification:** Are objective and verifiable data provided to support performance claims, such as from independent third party certifications, pilot studies, manufacturer's tests, and approvals from other states, countries, or federal agencies? The information must be sufficient for the Department to verify the effectiveness of the system to meet its treatment objective under the site-specific conditions. | *18 AAC 80.205(b)(9)* |
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| 1. **Pretreatment:** If pretreatment is required, provide design criteria for pre-treatment process. Is the pretreatment suitability based on raw water quality and a pilot study or other demonstration of its effectiveness? | *Ten States Standards* |
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| 1. **Automation and Alarms:** Describe reliability features including system alarms, critical alarm triggers, alarm follow-up actions (e.g. auto shut-off, filter-to-waste), and the system's capability for effective and safe manual operation. | *18 AAC 80.205(b)(9)* |
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| 1. **Shutdowns:** How will the public water system water demand be met during scheduled shutdown events such as maintenance? | *18 AAC 80.205(b)(9)* |
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| 1. **Power Supply:** Does the power quality analysis determine if an uninterruptible power supply (UPS) is required for critical electronic equipment and alarm systems? | *18 AAC 80.205(b)(9)* |
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| 1. **Heat Exchangers:** Is it specified that all heat exchangers are double wall? | *18 AAC 80.025* |
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| 1. **Disinfection after Installation:** Which specifications address disinfection of the treatment plant component(s) affected by the project before use? If AWWA Standard C653 is not specified, does the proposed method include adequate detail for the contractor to implement? | *18 AAC 80.205(b)(9)* |
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| 1. **Startup:** Discuss how the plant startup will be implemented including details on any temporary piping and the anticipated startup schedule. If the project is a modification or replacement of a water treatment plant, discuss how the transition will be made from the existing system to the new. | *18 AAC 80.205(b)(9)* |
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| 1. **O&M Manual:** Is information included on the schedule and responsible party for completing the system’s O&M manual? Please note that at least a draft version will be required when applying for interim operational approval. | *18 AAC 80.207* |
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| 1. **Operator On-site Training:** Does the written plan for training the water system operator(s) to operate the treatment system include at a minimum, who will provide the training, the scheduled date of training relative to the proposed system startup, and general content of the training. | *18 AAC 80.007* |
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| 1. **Compressed Air:** If compressed air is used in contact, has the engineer shown how air quality will be managed to prevent contaminants introduced into the water and that an oilless compressor/blower or food grade lubricants are used? | *18 AAC 80.205(b)(8)* |
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