

Article 2. Public Water System Review and Approval Requirements.**Section**

- 200. System classification and plan approval
- 205. Engineering plans
- 207. Capacity
- 210. Department review; post-approval procedures
- 215. Revocation of approval
- 220. Vehicle used to distribute potable water
- 225. Application to demonstrate an innovative technology or device
- 230. (Repealed)
- 235. Master meter

18 AAC 80.200. System classification and plan approval. (a) The department will classify each public water system as a community water system, non-transient non-community water system, transient non-community water system, or Class C public water system, based on information

(1) submitted by the owner of the system; and

(2) compiled by the department.

(b) Subject to (c), (d), (f), and (g) of this section, in order to construct, install, alter, renovate, operate, or improve a community water system, non-transient non-community water system or transient non-community water system, or any part of one, the owner must have prior written approval of engineering plans that comply with 18 AAC 80.205.

(c) Written approval under this section is not required for an emergency repair or routine maintenance of a public water system or for a single-service line installation or modification.

(d) The design of a public water system in existence on or before October 1, 1999 and that did not receive plan approval by the department must conform to standard sanitary engineering principles and practices and adequately protect the public health. If the system does not conform to standard sanitary engineering principles and practices, the owner may seek department approval for an alternate design for the system by submitting a report that justifies the alternate design. The report must

(1) be signed and sealed by a registered engineer;

(2) include considerations of soil type, surface water influence, groundwater, surface topography, geologic conditions, data showing the capability of the water system source to meet minimum water consumption needs, storage capacity, the production capability of the water treatment plant, well logs, well yield test results, and other conditions considered by the department as important in establishing the adequacy of the system to reliably protect public health;

(3) include a set of engineering plans of the existing system with an accurate description, including the number and location, of potential sources of contamination, water bodies, water sources in the area, and service connections; and

(4) include the name, address, telephone number, and facsimile number of the owner.

(e) If a public water system described in (d) does not adequately protect the public health, the department will require the system to be redesigned and approved in accordance with this chapter.

(f) If the department approves an alternate design under (d) of this section, the owner shall

(1) ensure that the system

(A) continues to meet the primary MCLs as required in 18 AAC 80.300(b); and

(B) meets the secondary MCLs as required in 18 AAC 80.300(c); and

(2) in addition to the monitoring required for the contaminants for which MCLs are set under 18 AAC 80.300, perform any contaminant monitoring that the department determines necessary to serve the interests of public health.

(g) Written approval under this section is not required for a project that is approved to demonstrate an innovative technology or device in a public water system under 18 AAC 80.225, provided the project does not exceed one year from the date of installation to the date that the demonstration ends.

(h) Subject to (i) of this section, the department will approve a Class C public water system if the owner or a registered engineer submits to the department

(1) the fee required by 18 AAC 80.1910(b)(4);

(2) a completed inventory, sources, and system diagram form provided by the department;

(3) the results of nitrate and coliform samples, analyzed by a certified laboratory, indicating those contaminants do not exceed the MCL set at 40 C.F.R. 141.62(b) and 141.63(a) and (b), adopted by reference in 18 AAC 80.010(a); and

(4) a written statement by the owner that the source water protection requirements of 18 AAC 80.015, the minimum separation distance requirements of 18 AAC 80.020, and the cross-connection provisions of 18 AAC 80.025 are met; if a system does not meet the requirements of 18 AAC 80.020, the owner shall obtain a waiver under 18 AAC 80.020(c) - (e).

(i) In addition to the information required by (h) of this section, the owner of a Class C public water system shall submit the information required in (j) of this section, if the system uses a water source

- (1) with a well depth less than 30 feet to the first opening for water collection;
- (2) that is less than 50 horizontal feet to a surface water source;
- (3) that uses an infiltration gallery, spring, rain catchment, or surface water source;
- (4) that requires treatment to meet an MCL set under 18 AAC 80.300; or
- (5) that requires other types of treatment; for purposes of this paragraph, other types of treatment

(A) include

(i) filtration, including granular activated carbon, slow sand, mixed media, and diatomaceous earth filtration;

(ii) fluoridation; and

(iii) corrosion control; and

(B) do not include water softening.

(j) If a Class C public water system uses a water source described in (i) of this section, the owner shall submit to the department

(1) information demonstrating that the water treatment is designed to consistently achieve 99.9 percent removal and inactivation of *Giardia lamblia* cysts and have one NTU or less of treated water turbidity;

(2) proof that the system was designed by a registered engineer;

(3) on a form provided by the department, a written statement by the owner, the person constructing the system, and the engineer who monitored the system's construction that the water system was constructed in accordance with this chapter and provides public health protection; and

(4) a written statement that the

(A) operator understands how to operate the system; or

(B) owner has contracted with a certified operator to operate the system.

(Eff. 10/1/99, Register 151; am 3/25/2001, Register 157; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020
AS 46.03.050

AS 46.03.710

AS 46.04.720

Editor's note: Guidance on standard sanitary engineering principles and practices, as addressed in 18 AAC 80.200(d), may be found in the references listed at 18 AAC 80.010(d).

18 AAC 80.205. Engineering plans. (a) Engineering plans submitted for approval under 18 AAC 80.200 must include

- (1) a completed application, on a current form provided by the department;
 - (2) construction drawings and specifications for
 - (A) the water source;
 - (B) storage;
 - (C) the master meter;
 - (D) the distribution system;
 - (E) the water treatment works; and
 - (F) related structures, including well houses, treatment plant buildings, and pump stations;
 - (3) plans and profiles of the water mains, as applicable;
 - (4) design criteria, calculations, and flow analysis computations for water demand, storage tank sizing, distribution main sizing, pump sizing, and other components of the new public water system if requested by the department to ensure that the design is adequate; and
 - (5) a specification that at least 20 psi of service pressure at the highest elevation or pressure zone of a distribution main be maintained under peak design demand.
- (b) The plans for each community water system, non-transient non-community water system, or transient non-community water system must include
- (1) the fee required under 18 AAC 80.1910(b);
 - (2) data showing the capability of the public water system source to meet minimum water consumption needs, criteria for water demand calculations, and the production capability of the water plant;

(3) the location, stated as the horizontal position and elevation, of each proposed or existing wastewater treatment and disposal system, sewage pump station, sewer line manhole and cleanout, petroleum storage tank and line, and potential or actual source of pollution or contamination, including the sources listed in Table A in 18 AAC 80.020(a), within 500 feet or less of a proposed water source, regardless of property lines or ownership; however, the department will

(A) waive or modify the requirement of this paragraph, with respect to a particular potential or actual source of pollution or contamination, if the plans include documentation to the department's satisfaction that access to the property where the source is located has been denied, or that another circumstance beyond the owner's control prevents the statement of the source's location is required;

(B) require that the plans include the location of a potential or actual source of pollution or contamination that is more than 500 feet from a proposed water source, if the department considers the information necessary to assess the risk to public health;

(4) the location, in longitude and latitude to the closest second, of each well and surface water intake and the method used to determine longitude and latitude on a form provided by the department;

(5) the overall treatment scheme, including calculations, if required under 18 AAC 80.600 – 18 AAC 80.699, for disinfection and how *Giardia lamblia* and viruses will be removed or inactivated;

(6) the name, address, telephone number, and facsimile number of the owner;

(7) a specification that only lead-free pipe, flux, and solder will be used, as required by 18 AAC 80.500;

(8) for a public water system that uses compressed air to pressurize hydropneumatic tanks, information proving that air quality will not contribute contaminants to the water;

(9) other information that the department determines is necessary to assess compliance with this chapter; and

(10) documentation showing the existence or formation, before beginning construction of the system, of a local government organization, a homeowner's association, a private utility, a commercial entity, or other entity, the purpose of which is to operate and maintain the system.

(c) In addition to the information required by (a) and (b) of this section, the owner shall submit the following information:

Article 2. Public Water System Review and Approval Requirements.**Section**

- 200. System classification and plan approval
- 205. Engineering plans
- 207. Capacity
- 210. Department review; post-approval procedures
- 215. Revocation of approval
- 220. Vehicle used to distribute potable water
- 225. Application to demonstrate an innovative technology or device
- 230. (Repealed)
- 235. Master meter

18 AAC 80.200. System classification and plan approval. (a) The department will classify each public water system as a community water system, non-transient non-community water system, transient non-community water system, or Class C public water system, based on information

(1) submitted by the owner of the system; and

(2) compiled by the department.

(b) Subject to (c), (d), (f), and (g) of this section, in order to construct, install, alter, renovate, operate, or improve a community water system, non-transient non-community water system or transient non-community water system, or any part of one, the owner must have prior written approval of engineering plans that comply with 18 AAC 80.205.

(c) Written approval under this section is not required for an emergency repair or routine maintenance of a public water system or for a single-service line installation or modification.

(d) The design of a public water system in existence on or before October 1, 1999 and that did not receive plan approval by the department must conform to standard sanitary engineering principles and practices and adequately protect the public health. If the system does not conform to standard sanitary engineering principles and practices, the owner may seek department approval for an alternate design for the system by submitting a report that justifies the alternate design. The report must

(1) be signed and sealed by a registered engineer;

(2) include considerations of soil type, surface water influence, groundwater, surface topography, geologic conditions, data showing the capability of the water system source to meet minimum water consumption needs, storage capacity, the production capability of the water treatment plant, well logs, well yield test results, and other conditions considered by the department as important in establishing the adequacy of the system to reliably protect public health;

(3) include a set of engineering plans of the existing system with an accurate description, including the number and location, of potential sources of contamination, water bodies, water sources in the area, and service connections; and

(4) include the name, address, telephone number, and facsimile number of the owner.

(e) If a public water system described in (d) does not adequately protect the public health, the department will require the system to be redesigned and approved in accordance with this chapter.

(f) If the department approves an alternate design under (d) of this section, the owner shall

(1) ensure that the system

(A) continues to meet the primary MCLs as required in 18 AAC 80.300(b); and

(B) meets the secondary MCLs as required in 18 AAC 80.300(c); and

(2) in addition to the monitoring required for the contaminants for which MCLs are set under 18 AAC 80.300, perform any contaminant monitoring that the department determines necessary to serve the interests of public health.

(g) Written approval under this section is not required for a project that is approved to demonstrate an innovative technology or device in a public water system under 18 AAC 80.225, provided the project does not exceed one year from the date of installation to the date that the demonstration ends.

(h) Subject to (i) of this section, the department will approve a Class C public water system if the owner or a registered engineer submits to the department

(1) the fee required by 18 AAC 80.1910(b)(4);

(2) a completed inventory, sources, and system diagram form provided by the department;

(3) the results of nitrate and coliform samples, analyzed by a certified laboratory, indicating those contaminants do not exceed the MCL set at 40 C.F.R. 141.62(b) and 141.63(a) and (b), adopted by reference in 18 AAC 80.010(a); and

(4) a written statement by the owner that the source water protection requirements of 18 AAC 80.015, the minimum separation distance requirements of 18 AAC 80.020, and the cross-connection provisions of 18 AAC 80.025 are met; if a system does not meet the requirements of 18 AAC 80.020, the owner shall obtain a waiver under 18 AAC 80.020(c) - (e).

(i) In addition to the information required by (h) of this section, the owner of a Class C public water system shall submit the information required in (j) of this section, if the system uses a water source

- (1) with a well depth less than 30 feet to the first opening for water collection;
- (2) that is less than 50 horizontal feet to a surface water source;
- (3) that uses an infiltration gallery, spring, rain catchment, or surface water source;
- (4) that requires treatment to meet an MCL set under 18 AAC 80.300; or
- (5) that requires other types of treatment; for purposes of this paragraph, other types of treatment

(A) include

(i) filtration, including granular activated carbon, slow sand, mixed media, and diatomaceous earth filtration;

(ii) fluoridation; and

(iii) corrosion control; and

(B) do not include water softening.

(j) If a Class C public water system uses a water source described in (i) of this section, the owner shall submit to the department

(1) information demonstrating that the water treatment is designed to consistently achieve 99.9 percent removal and inactivation of *Giardia lamblia* cysts and have one NTU or less of treated water turbidity;

(2) proof that the system was designed by a registered engineer;

(3) on a form provided by the department, a written statement by the owner, the person constructing the system, and the engineer who monitored the system's construction that the water system was constructed in accordance with this chapter and provides public health protection; and

(4) a written statement that the

(A) operator understands how to operate the system; or

(B) owner has contracted with a certified operator to operate the system.

(Eff. 10/1/99, Register 151; am 3/25/2001, Register 157; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020
AS 46.03.050

AS 46.03.710

AS 46.04.720

Editor's note: Guidance on standard sanitary engineering principles and practices, as addressed in 18 AAC 80.200(d), may be found in the references listed at 18 AAC 80.010(d).

18 AAC 80.205. Engineering plans. (a) Engineering plans submitted for approval under 18 AAC 80.200 must include

- (1) a completed application, on a current form provided by the department;
 - (2) construction drawings and specifications for
 - (A) the water source;
 - (B) storage;
 - (C) the master meter;
 - (D) the distribution system;
 - (E) the water treatment works; and
 - (F) related structures, including well houses, treatment plant buildings, and pump stations;
 - (3) plans and profiles of the water mains, as applicable;
 - (4) design criteria, calculations, and flow analysis computations for water demand, storage tank sizing, distribution main sizing, pump sizing, and other components of the new public water system if requested by the department to ensure that the design is adequate; and
 - (5) a specification that at least 20 psi of service pressure at the highest elevation or pressure zone of a distribution main be maintained under peak design demand.
- (b) The plans for each community water system, non-transient non-community water system, or transient non-community water system must include
- (1) the fee required under 18 AAC 80.1910(b);
 - (2) data showing the capability of the public water system source to meet minimum water consumption needs, criteria for water demand calculations, and the production capability of the water plant;

(3) the location, stated as the horizontal position and elevation, of each proposed or existing wastewater treatment and disposal system, sewage pump station, sewer line manhole and cleanout, petroleum storage tank and line, and potential or actual source of pollution or contamination, including the sources listed in Table A in 18 AAC 80.020(a), within 500 feet or less of a proposed water source, regardless of property lines or ownership; however, the department will

(A) waive or modify the requirement of this paragraph, with respect to a particular potential or actual source of pollution or contamination, if the plans include documentation to the department's satisfaction that access to the property where the source is located has been denied, or that another circumstance beyond the owner's control prevents the statement of the source's location is required;

(B) require that the plans include the location of a potential or actual source of pollution or contamination that is more than 500 feet from a proposed water source, if the department considers the information necessary to assess the risk to public health;

(4) the location, in longitude and latitude to the closest second, of each well and surface water intake and the method used to determine longitude and latitude on a form provided by the department;

(5) the overall treatment scheme, including calculations, if required under 18 AAC 80.600 – 18 AAC 80.699, for disinfection and how *Giardia lamblia* and viruses will be removed or inactivated;

(6) the name, address, telephone number, and facsimile number of the owner;

(7) a specification that only lead-free pipe, flux, and solder will be used, as required by 18 AAC 80.500;

(8) for a public water system that uses compressed air to pressurize hydropneumatic tanks, information proving that air quality will not contribute contaminants to the water;

(9) other information that the department determines is necessary to assess compliance with this chapter; and

(10) documentation showing the existence or formation, before beginning construction of the system, of a local government organization, a homeowner's association, a private utility, a commercial entity, or other entity, the purpose of which is to operate and maintain the system.

(c) In addition to the information required by (a) and (b) of this section, the owner shall submit the following information:

(1) for a community water system, non-transient non-community water system, or transient non-community water system proposing to make a change in the water treatment process that could change water quality, such as adding new chemicals, changing the filtration process, or changing the disinfection process,

(A) the water quality test results for raw water and treated water that identify the contaminants for which MCLs are set under 18 AAC 80.300 and important to the design of the treatment process; and

(B) after construction, the effectiveness of the treatment;

(2) for a public water system proposing to use a new source, the results of raw water testing, conducted before operation, as shown in Table B of this paragraph; and

	Community or Non-Transient Non-Community		Transient Non-Community		Class C	
	Ground water	Surface Water	Ground water	Surface Water	Ground water	Surface Water
Total Coliform Bacteria	Yes	Yes	Yes	Yes	Yes	Yes
Inorganic Chemicals (not including asbestos)	Yes	Yes	No	No	No	No
Nitrate	Yes	Yes	Yes	Yes	Yes	Yes
Nitrite	Yes	Yes	Yes	Yes	Yes	Yes
Volatile Organic Chemicals	Yes	Yes	No	No	No	No
Secondary Contaminants	Yes	Yes	No	No	No	No

(3) for a community water system, non-transient non-community water system, or transient non-community water system that has a new water source that is

(A) a groundwater source, raw water quality data sufficient for the department to determine whether the source is GWUDISW;

(1) for a community water system, non-transient non-community water system, or transient non-community water system proposing to make a change in the water treatment process that could change water quality, such as adding new chemicals, changing the filtration process, or changing the disinfection process,

(A) the water quality test results for raw water and treated water that identify the contaminants for which MCLs are set under 18 AAC 80.300 and important to the design of the treatment process; and

(B) after construction, the effectiveness of the treatment;

(2) for a public water system proposing to use a new source, the results of raw water testing, conducted before operation, as shown in Table B of this paragraph; and

	Community or Non-Transient Non-Community		Transient Non-Community		Class C	
	Ground water	Surface Water	Ground water	Surface Water	Ground water	Surface Water
Total Coliform Bacteria	Yes	Yes	Yes	Yes	Yes	Yes
Inorganic Chemicals (not including asbestos)	Yes	Yes	No	No	No	No
Nitrate	Yes	Yes	Yes	Yes	Yes	Yes
Nitrite	Yes	Yes	Yes	Yes	Yes	Yes
Volatile Organic Chemicals	Yes	Yes	No	No	No	No
Secondary Contaminants	Yes	Yes	No	No	No	No

(3) for a community water system, non-transient non-community water system, or transient non-community water system that has a new water source that is

(A) a groundwater source, raw water quality data sufficient for the department to determine whether the source is GWUDISW;

(B) surface water or GWUDISW, raw water quality sufficient to allow the department to determine whether the proposed water treatment equipment complies with 18 AAC 80.600 - 18 AAC 80.680;

(4) for a community water system or non-transient non-community water system whose owner plans to add a disinfectant to the water in any part of the drinking water treatment process, raw water quality data sufficient for the department to determine whether the public water system will comply with 18 AAC 80.300(b)(2)(C);

(5) for a community water system or non-transient non-community water system, raw water quality data sufficient to allow the department to determine whether the proposed water treatment equipment will control the corrosivity of the water;

(6) for all public water systems, raw water quality data for a potential contaminant, if the department determines that the data serves the interest of public health. (Eff. 10/1/99, Register 151; am 1/11/2006, Register 177; am 8/19/2006, Register 179; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020 AS 46.03.710 AS 46.03.720
AS 46.03.050

18 AAC 80.207. Capacity. (a) The department will not issue an approval to construct a new community water system or non-transient non-community water system under 18 AAC 80.210 unless the department determines, based on the information provided under (b) – (d) of this section, that the community water system or non-transient non-community water system has the managerial, financial, and technical capacity to operate in compliance with 40 C.F.R. 141 and this chapter.

(b) The department will base a determination of technical capacity upon the capability of the public water system to consistently produce and deliver water in compliance with this chapter. To assess that capability, the department will examine

(1) the physical infrastructure of the system, including the adequacy of

(A) the source water; and

(B) infrastructure components, including

(i) treatment;

(ii) storage;

(iii) distribution;

(iv) pumps, pump facilities, and controls; and

(v) a master meter as described in 18 AAC 80.235;

(2) the ability of system personnel to adequately operate and maintain the system and otherwise implement technical knowledge; and

(3) for a new community water system or non-transient non-community water system, the engineering plans; those plans must include documentation showing the system's technical capacity, including

(A) a written plan for the operation and maintenance of all components of the proposed system;

(B) the information required under 18 AAC 80.205; and

(C) other information that the department considers necessary to assess the technical capacity of the proposed system.

(c) The department will base a determination of financial capacity upon the capability of the owner of a new community water system or non-transient non-community water system to provide the financial resources necessary for the consistent production and delivery of water in compliance with this chapter. To assess that capability, the department will examine the owner's revenue sufficiency, credit worthiness, and fiscal controls. The owner of a new community water system or non-transient non-community water system shall provide

(1) for a proposed public water system that is a public utility and is not exempt from AS 42.05 under AS 42.05.711 or AS 42.05.712,

(A) a copy of the application for the certificate of public convenience and necessity that has been submitted to the Regulatory Commission of Alaska; and

(B) written verification from the Regulatory Commission of Alaska that an application for a certificate of public of convenience and necessity has been submitted;

(2) for a proposed public water system that is a public utility but is exempt from AS 42.05 under AS 42.05.711 or 42.05.712, including a municipally owned system, a completed application on a form provided by the department, describing the owner's revenue sufficiency, credit worthiness, and fiscal controls;

(3) for a proposed public water system that is not a public utility

(A) a proposed financial plan and annual budget showing estimated system income and operation costs; and

(B) a completed financial capability assessment, on a form provided by the department and as described in 18 AAC 76.225(b)(7), or on the forms used by the Department of Commerce, Community, and Economic Development to assist communities in dealing with sanitation utility issues;

(4) other information that the owner believes will demonstrate financial capacity;
and

(5) other information that the department considers necessary to assess the financial capacity of the proposed public water system.

(d) The department will base a determination of managerial capacity upon the capability of the owner of a new community water system or new non-transient non-community water system to provide the management structure necessary for the consistent production and delivery of water in compliance with this chapter. To assess that capability, the department will examine the owner's ownership accountability, staffing, organization, and means of communication with customers, professional service providers, the department, and other regulatory agencies. The owner of a new community water system or new non-transient non-community water system shall provide

(1) for a proposed public water system that is a public utility and is not exempt from AS 42.05 under AS 42.05.711 or AS 42.05.712,

(A) a copy of the application for the certificate of public convenience and necessity that has been submitted to the Regulatory Commission of Alaska; and

(B) written verification from the Regulatory Commission of Alaska that an application for a certificate of public of convenience and necessity has been submitted;

(2) for a proposed public water system that is a public utility but is exempted from AS 42.05 under AS 42.05.711 or 42.05.712, including a municipally owned system, a completed application on a form provided by the department, describing the owner's ownership accountability, staffing, organization, and means of communication with customers;

(3) for a proposed public water system that is not a public utility

(A) documentation showing ownership and plans, if any, for transfer of that ownership on completion of construction or after a period of operation;

(B) a description of the management structure of the proposed system, including the duties of each position; in providing this information, the owner may include bylaws, ordinances, articles of incorporation, or procedures and policy manuals that describe the management organization structure;

(C) a description of the proposed staffing, including training, experience, certification or licensing, and continuing education completed by the proposed system staff; and

(D) an explanation of how the proposed system will establish and maintain effective communications and relationships between the public water system management, its customers, professional service providers, and regulatory agencies;

(4) a written contingency plan showing that the owner is able to provide water in compliance with this chapter to each customer within 24 hours after an event that has the potential to cause

(A) contamination of the water system above applicable MCLs as described in 18 AAC 80.300; or

(B) a lack of water pressure or supply;

(5) the name, address, telephone number, and facsimile number of each individual operator and verification that each individual operator is certified under 18 AAC 74, if required;

(6) other information that the owner believes will demonstrate managerial capacity; and

(7) other information that the department considers necessary to assess the managerial capacity of the proposed public water system. (Eff. 10/1/99, Register 151; am 8/19/2006, Register 179; am 4/24/2009, Register 190)

Authority: AS 46.03.020 AS 46.03.070 AS 46.03.720
AS 46.03.050 AS 46.03.710

Editor's note: As of Register 171 (October 2004), the regulations attorney made technical revisions under AS 44.62.125(b)(6) to reflect the name change of the Department of Community and Economic Development to the Department of Commerce, Community, and Economic Development made by ch. 47, SLA 2004 and the corresponding title change of the commissioner of community and economic development.

18 AAC 80.210. Department review; post-approval procedures. (a) The department will issue its approval or denial to construct a community water system, non-transient non-community water system, or transient non-community water system within 30 days after the department receives all of the plans and information required by this chapter. If the submittals are deficient, the department will notify the owner that additional information is needed.

(b) Failure of the department to issue an approval or denial to construct within 30 days does not constitute automatic approval of the plans.

(c) If the department grants an approval to construct for a set of plans and specifications, the department will

(1) sign the construction portion of a construction and operation certificate for public water systems;

(2) send a copy of the certificate, as signed under (1) of this subsection, to the owner of the public water system; and

(3) assign the public water system an identification number.

(d) The department will not issue an approval to construct a new community water system or a new non-transient non-community water system if the department determines that the submitted plans, specifications, and information do not meet the requirements of technical, financial, and managerial capacity under 18 AAC 80.207.

(e) The department will issue a final approval to operate for a new water well if raw water analyses submitted under 18 AAC 80.205(c)(2) show that the minimum testing requirements in Table B of that paragraph are met.

(f) A signed construction and operation certificate for public water systems does not relieve the owner of the public water system of the responsibility to

(1) construct, operate, and maintain the system in compliance with this chapter;

or

(2) obtain a permit to appropriate water under AS 46.15; or

(3) comply with other state law.

(g) A public water system that has received a department approval to construct may not serve water for public consumption until

(1) construction is complete;

(2) the finished water analyses for coliform bacteria and for any raw water contaminant that exceeded an MCL under 18 AAC 80.300 are complete and approved;

(3) based on the requirements of this subsection, the department grants interim approval to operate under (i) of this section; and

(4) for a new community water system or new non-transient non-community water system, the terms and conditions set by the department regarding financial and managerial capacity under 18 AAC 80.207 have been met.

(h) The well logs for a well intended to serve a public water system, including wells not in operation but that are connected to the public water system on a standby basis for purposes such as fire protection and emergencies, must be submitted to the department within 30 days after the construction of the public water system. The well log must contain the following information as applicable:

- (1) the method of construction;
- (2) the type of fluids used for drilling;
- (3) the location of the well;
- (4) an accurate log of the soil and rock formations encountered and the depth at which the formations occur;
- (5) the depth of the casing;
- (6) the height of the casing above ground;
- (7) the depth and type of grouting;
- (8) the depth of any screens;
- (9) the casing diameter;
- (10) the casing material;
- (11) the depth of perforation or opening in the casing;
- (12) the well development method;
- (13) the total depth of the well;
- (14) the depth to the static water level;
- (15) the anticipated use of the well;
- (16) the maximum well yield;
- (17) the results of any well yield, aquifer, or drawdown test that was conducted;
- (18) if the water well contractor or person who constructs the well installs a pump at the time of construction, the depth of the pump intake and the pump performance data.

(i) If the department grants interim approval to operate under (g) of this section, the department will

(1) sign the interim operation portion of a construction and operation certificate for public water systems; upon the department's signing of the interim operation section of the certificate, operation of the water system for a 90-day interim period is approved; and

(2) send a copy of the certificate, as signed under (1) of this subsection, to the owner.

(j) The department will grant final approval to operate if

(1) record drawings, signed and sealed by a registered engineer, are submitted during the interim approval period;

(2) the record drawings submitted under (1) of this subsection confirm that the system meets the requirements of this chapter and provides public health protection;

(3) all written terms and conditions set by the department for the construction are met; and

(4) for all new community water systems or new non-transient non-community water systems, the new system meets the technical capacity requirements of 18 AAC 80.207; and

(5) for a new community water system, new non-transient non-community water system, or new transient non-community water system, a summary of information, from the initial construction submittals of plans and information required by this chapter, and from record drawings required in (1) of this subsection, is

(A) completed and signed by the registered engineer who signed and sealed the record drawings; and

(B) submitted on a current form provided, and in a format approved, by the department with the request for final approval to operate.

(k) If the department grants final approval to operate under (j) of this section, the department will

(1) sign the final operation portion of a construction and operation certificate for public water systems; and

(2) send a copy of the certificate, as signed under (1) of this subsection, to the owner.

(l) The department will waive the requirement for submission of record drawings if it makes an onsite inspection and finds that the system was constructed as approved. The owner shall pay the fee required by 18 AAC 80.1910(a)(1) for an onsite inspection conducted under this subsection. (Eff. 10/1/99, Register 151; am 1/11/2006, Register 177; am 11/9/2006, Register 180; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020 AS 46.03.710 AS 46.03.720
AS 46.03.050

18 AAC 80.215. Revocation of approval. (a) The department will revoke an approval issued under 18 AAC 80.210 if

- (1) the owner fails to comply with the procedures set out in 18 AAC 80.210; and
- (2) the department determines that revocation is necessary to protect the public health.

(b) If the applicant fails to construct, install, alter, renovate, or improve the public water system within two years after the department issues an approval to construct under 18 AAC 80.210(c), the approval is void and the plans and information required under 18 AAC 80.210(a) must be resubmitted for department review and approval. If during the two-year period the site conditions, plans and information, and requirements in this chapter do not change, and if the applicant pays the fee required by 18 AAC 80.1910(a)(12), the department will grant the applicant an extension. (Eff. 10/1/99, Register 151; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020 AS 46.03.710 AS 46.03.720
AS 46.03.050

18 AAC 80.220. Vehicle used to distribute potable water. (a) The owner of a public water system that uses a vehicle to distribute potable water shall submit the plans and specifications required under 18 AAC 80.200 - 18 AAC 80.205 for each vehicle to the department before using the vehicle to distribute potable water. As the department determines necessary to serve the interests of public health, the department will require that the plans and specifications be signed and sealed by a registered engineer.

(b) After receiving plans and specifications required under 18 AAC 80.200 - 18 AAC 80.205, and if the department determines that an onsite inspection is necessary to serve the interests of public health, the department will require that the owner make the vehicle available for onsite inspection, and will inspect the vehicle no later than 30 days after receiving notice that the vehicle is available for inspection. The owner shall pay the fee required by 18 AAC 80.1910(a)(1) for an inspection conducted under this subsection.

(c) After the department approves the plans and specifications under 18 AAC 80.210, and after a vehicle passes an inspection, if required under (b) of this section, the department will grant final approval to operate under 18 AAC 80.210(k).

(d) An approval to operate under this section does not relieve the owner of the responsibility to operate and maintain the vehicle in compliance with this chapter.

(e) The owner shall conspicuously mark a vehicle used to distribute potable water "POTABLE WATER ONLY." (Eff. 10/1/99, Register 151; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020 AS 46.03.710 AS 46.03.761
AS 46.03.050 AS 46.03.720

18 AAC 80.225. Application to demonstrate an innovative technology or device. (a) The department will approve an application to demonstrate an innovative technology or device at a public water system if the

(1) purpose of a demonstration is to

(A) assure that the innovative technology or device meets the necessary safety and performance standards of this chapter; and

(B) allow the innovative technology or device to be field-tested in this state without plan review under 18 AAC 80.200 – 18 AAC 80.210 during the demonstration period;

(2) department determines that the requirements of (e) and (f) of this section are met; and

(3) department finds that the public health and the public water system is adequately protected.

(b) The owner of a public water system who proposes the use or application of an innovative technology or device in the public water system's infrastructure shall submit an application for department approval under this section.

(c) An application under this section must be accompanied by the fee required by 18 AAC 80.1910(a)(10) and must describe the innovative technology or device, its proposed use, and its performance. The application must include

(1) the name of the innovative technology or device;

(2) a list of the construction materials;

(3) the proposed configuration;

(4) performance claims made by the manufacturer;

(5) information regarding approvals in other states or countries, if any, including if known, the name, address, and telephone number of the reviewing officer in each state or country;

(6) quality assurance information, including

- (A) the name of the person responsible for overseeing the demonstration project;
 - (B) a plan for monitoring raw water quality, pretreatment effluent water quality, and finished water quality to verify and ensure that assumptions for the design of the treatment equipment are met;
 - (C) the innovative technology or device's controls for eliminating or reducing operator error; and
 - (D) the operational requirements for the innovative technology or device and its ease of use;
- (7) information about reliability features including unit alarms, automatic shutdown, and the system's capability for effective and safe manual operation if an automated system failure occurs;
- (8) information on how the public water system's customers will be notified of the proposed and ongoing project;
- (9) a description of the basic operation and maintenance needs, including
- (A) chemicals, spare parts, labor, instrumentation, energy requirements, and ongoing monitoring;
 - (B) a replacement and maintenance schedule;
 - (C) the availability and cost of parts, servicing equipment, and controls;
 - (D) a description of periodic cleaning requirements, including the expected resulting down time;
 - (E) the response time of the equipment supplier to service calls;
 - (F) provisions for storage, auxiliary treatment, or bypassing if equipment problems occur;
 - (G) required backwashing frequency, the filter-to-waste capability, and any disposal and storage requirements related to backwashing;
 - (H) auxiliary needs, including media regeneration;
- (10) pretreatment requirements;
- (11) chemical feed requirements;
- (12) finished water storage;

- (13) operator expertise required to operate the innovative technology or device;
- (14) manuals and training to be provided to the operator;
- (15) the capability of the treatment process to produce finished water of a consistent quality, on a 24-hour per day, 8-hour per day, intermittent, and seasonal basis;
- (16) environmental impacts, including waste disposal needs;
- (17) the life cycle costs of the innovative technology or device, including the costs of
 - (A) the facilities;
 - (B) the appurtenances;
 - (C) the expected power consumption; and
 - (D) parts that must routinely be replaced such as membranes, filters, and cartridges;
- (18) objective and verifiable data to support performance claims, including third-party certifications, data from independent third parties, study data, the manufacturer's test data, and approvals from other states, countries, or federal agencies; the information submitted under this paragraph must be sufficient for the department to determine, as applicable,
 - (A) the pathogen removal credits for the *Giardia lamblia* virus and other viruses as appropriate;
 - (B) compliance with MCLs of concern;
 - (C) appropriate performance standards; and
 - (D) monitoring frequency required for the innovative technology or device; information on monitoring frequency must be obtained from product and process technical information, including shop drawings, process schematics and descriptions, power requirements, capacity and dimensional data, required auxiliary equipment, information on conditions for and limitations on process applicability, and quality control processes;
 - (E) the effectiveness of the innovative technology or device under site-specific conditions with respect to
 - (i) source water quality, considering seasonal variations;
 - (ii) finished water quality requirements;

- (iii) finished water quality produced, including consistency;
 - (iv) design flow rates;
 - (v) the useful life of the device;
 - (vi) external environmental issues;
 - (vii) storage requirements, space requirements, and accessibility;
 - (viii) other treatment needs, such as pre-treatment water or post-treatment water;
 - (ix) the range of field extremes;
 - (x) the worst case and best case adaptability of the technology or device to various raw water qualities;
 - (xi) differential pressure conditions;
 - (xii) the reliability of treatment facilities, including redundancy of equipment; and
 - (xiii) operational conditions, including stopping and starting;
- (F) the availability of technical support, including water treatment system manufacturer or supplier support;
- (G) the qualifications of the water treatment system supplier;
- (H) how operators will be trained;
- (I) the laboratory services to be used; and
- (J) the names of independent engineering consultants, if any, to be used in the project;
- (19) a list of nationally recognized codes and standards that were followed in developing and planning the installation of the device;
- (20) materials safety verification that includes supporting documentation concerning safety and use; the applicant may include as verification
- (A) a listing within an ANSI, NSF, UL, or MIL standard or an equivalent;
- and

(B) documentation of compliance with appropriate regulations of the United States Food and Drug Administration for food additives, found in 21 C.F.R. 170-190;

(21) material safety data sheets; and

(22) an operations manual for using the innovative technology or device in the proposed configuration.

(d) If the information submitted under (c) of this section is not sufficient for an approval under this section, the department will authorize a pilot test as a method of evaluating onsite performance and to prove that the technology or device is appropriate for use in this state. The department will authorize a pilot test only if the test serves the interests of public health, and only with an approved plan of action from the applicant. The plan of action must include necessary monitoring, quality control, data recording and reporting, evaluations, and a project summary. The department will provide written guidelines describing the criteria to be evaluated in the demonstration. A demonstration is not subject to the plan review requirements of 18 AAC 80.200 - 18 AAC 80.225 if the duration of the project does not exceed one year from the date of installation to the date that the demonstration ends. All other requirements of this chapter that apply to the public water system remain in effect during the demonstration. If the department allows a pilot test of the proposed technology or device, in addition to the requirements of (d) of this section, the applicant shall

(1) describe each known risk associated with the demonstration project;

(2) describe how drinking water contamination will be prevented during the demonstration project; means of preventing contamination include

(A) use of the innovative technology or device in conjunction with existing approved devices; and

(B) discharging the treated water;

(3) provide an example of the records and data to be collected during the demonstration project;

(4) provide the qualifications of each person who will record data;

(5) estimate the duration of the demonstration;

(6) provide plan drawings of the proposed installation;

(7) provide the names and telephone numbers of contact persons;

(8) identify the proposed installation site;

(9) submit a letter from the owner of the public water system, agreeing to participation.

(e) The department will evaluate an application submitted under (a) of this section to assess compliance with this chapter and the suitability of the innovative technology or device for use in the public water system. The department will base its denial or approval upon an evaluation of

(1) the potential risk of contamination entering the public water system during normal operation, abnormal operation, or catastrophic failure;

(2) the methods used to determine the potential risk of contamination entering the public water system during normal operation, abnormal operation, or catastrophic failure;

(3) factors relating to the ease of use, including the operator skills required to operate the innovative technology or device safely and effectively, the necessity for spare parts or special chemicals, and the ease of obtaining products for maintenance and repair;

(4) whether the device met performance claims and regulatory requirements during the field test;

(5) conditions particular to this state and known or suspected to limit the effectiveness of technology; those conditions include permafrost and freezing;

(6) the history of the device in other water systems in this state, other states, or other countries.

(f) Based on a review of the innovative technology's performance, its suitability for use in this state, and the results of any pilot test or field demonstration performed under this section, the department will approve or deny the application for use of an innovative technology or device. Approval constitutes

(1) approval of a generic technology, not an endorsement or approval of a specific commercial product;

(2) site-specific approval of the innovative technology or device for initial use or for a pilot test; and

(3) approval for the proposed project only.

(g) Permanent installation of approved innovative technology is subject to 18 AAC 80.200 - 18 AAC 80.225. Engineering plans submitted under 18 AAC 80.200 must include a plan for converting from a temporary to a permanent installation.

(h) The applicant may resubmit an application that has been denied under this section after correcting each deficiency identified by the department in its denial of the initial application.

(i) The department will maintain a list of each innovative technology or device approved under this section. (Eff. 10/1/99, Register 151; am 4/24/2009, Register 190; am 7/25/2010, Register 195)

Authority: AS 46.03.020 AS 46.03.710 AS 46.03.720
AS 46.03.050

18 AAC 80.230. Qualified operator for a system that fluoridates. Repealed. (Eff. 10/1/99, Register 151; repealed 9/28/2001, Register 159)

18 AAC 80.235. Master meter. The owner of each community water system has until August 19, 2009, and the owner of each non-transient non-community water system has until August 19, 2011, to install a master meter to determine water treated, distributed, and wasted as part of a treatment process. (Eff. 8/19/2006, Register 179)

Authority: AS 46.03.020 AS 46.03.070 AS 46.03.720
AS 46.03.050 AS 46.03.710