September 12, 2000

Mr. Dan O’Lone
Region IV – EPA
61 Forsyth SW
Atlanta, Georgia 30303

Re: Alabama’s Capacity Development Strategy

Dear Mr. O’Lone:

Enclosed is the Alabama’s final capacity development strategy for existing PWSs titled Alabama’s Capacity Development Strategy for Existing Public Water Systems.

Alabama received only one permit application for a new PWS since September 30, 1999. City of Cullman Water Works was permitted after a legal decision by the City to separate and permit the distribution infrastructure separate from the source of its existing PWS (Cullman Water Authority). This action although legally resulting in another PWS was determined not to adversely affect existing T, M or F capacity.

Please let me know should you require additional information.

Sincerely,

[Kent J. Lowery, Chief]
Community Systems Section
Water Supply Branch

KJL/kpk

Enclosure: Alabama’s Capacity Development Strategy
Alabama’s Capacity Development Strategy

For

Existing Public Water Systems

The re-authorized Safe Drinking Water Act of 1996 included language that allowed each state to establish a Drinking Water State Revolving Fund to finance infrastructure improvements in public water systems. To assure the best use of these funds, the Safe Drinking Water Act required each state to establish programs to ensure that public water systems in the state had the technical, managerial, and financial ability to comply with Federal and State requirements. Each state must demonstrate it has the legal authority to ensure that all new public water systems have the technical, managerial, and financial capability to meet both Federal and State requirements. Each state must also establish a Capacity Development Strategy to improve the technical, managerial, and financial capability of existing public water systems lacking these, in order that they too, comply with Federal and State requirements.

A prerequisite to a public water system - both existing and proposed - obtaining a Water Supply Permit from the Alabama Department of Environmental Management (ADEM) as covered in ADEM’s Administrative Code Division 7, is that the water system must demonstrate technical, managerial, and financial capability to reliably meet performance requirements on a long-term basis and be self-sustaining. All proposed water systems that meet the definition of a public water system must receive a Water Supply Permit before initiating construction of water facilities. All existing permitted public water systems (community and non-community) must submit an application for renewal of
their water supply permit on a designated frequency. For community water systems these permits must be renewed every six years and every ten years for non-community systems. EPA has previously approved Alabama’s Capacity Development Program for new public water systems.

EPA capacity development guidance relative to Section 1420(c) of the SDWA, suggests that states consider and include as appropriate five (5) elements in their capacity development strategy. Each of these elements is listed below followed by Alabama’s response.

I The methods or criteria that the state will use to identify and prioritize the PWSs most in need of technical, managerial, and financial capability.

**Alabama Response:**

Alabama will include the following in assessing the status of existing public water supply systems in order to develop a list of systems needing assistance with capacity. These water systems will be ranked with respect to technical, financial, and/or managerial need from highest to the lowest.

Water Supply Branch (WSB) staff will strive to continue conducting annual inspections of each public water system. The primary intent of these inspections is to identify physical and operational constraints to the production and distribution of a high quality drinking water to each customer connected to the system. The following will be evaluated during these annual inspections and used in addition to other information as described to determine the status of the water system as to any capacity assistance needed.

1) Water capacity – does water system have a minimum of 150% of average day demand?

2) Storage – does above ground storage equal at least one average day’s water usage?
3) Operator Certification – are there an appropriate number of competent certified operators for the type water system involved?

4) Equipment and treatment facility – are equipment and treatment facilities appropriate for each raw water source used?

5) Water quality – does raw and finished water quality – bacteriological and chemical – meet federal and state standards?

6) Compliance history – does a review of chemical/bacteria monitoring record and analytical results reflect periods of non-compliance?

7) Source water assessment status – how much has been accomplished, i.e., delineation, contaminant inventory, etc.?

8) Redundancy of essential equipment – is duplicate equipment or appropriate spare parts available for disinfection and pumping?

9) Onsite operation information – are Operation Data Reports being accurately completed and submitted monthly?

10) Chemical and bacteriological monitoring plans – are they updated and complete?

11) Cross connection control policy/plan implementation – does the water system have an active program?

12) Emergency water conservation program/plan – does the water system have a program/plan? Has the plan been made known to water system customers?

13) Source water redundancy – does the water system have emergency connections w/ adjacent public water systems and/or does the water system have additional/multiple sources of its own?

Since with few exceptions, all of Alabama’s public water systems are publicly funded and operated, much of the financial information about the water system such as indebtedness and loan repayment history will be obtained during quarterly meetings with the USDA-RD and Alabama Department of Economic and Community Affairs (ADECA) staff. The ability of the water system to financially address required improvements will also figure into water system capacity need prioritization. Responsiveness of the water board, City Council, or management
group to addressing recommendations made by the Department relative to identified treatment, customer service and distribution needs made known to the water system during inspections or by other means, will also be considered in determining the overall capacity status and needs of the system.

An employee of the Alabama Rural Water Association (ARWA), partly funded by the Department through a contract with the ARWA will secure additional capacity status information during on-site visits to designated water systems. This individual who is also a certified operator will meet with water system management and staff and generate a document following his visit which addresses the status of several capacity components and make this document available to the Department. The document developed jointly by ARWA and ADEM incorporates relevant technical, financial, and managerial capacity questions. Some of the information this individual will contribute includes:

1) Does the water board meet regularly and conduct business in an open manner, with the customers the system serves?

2) Does the water board or council responsible for the water system use appropriate procedure for acquiring new employees and maintain proper training of same?

3) Does the board or council take appropriate steps once being notified of deficiencies or system needs to implement appropriate actions to address these needs?

4) Does the board or council evaluate overall income and disbursements and establish water rates that are commensurate with the needs of the water system to provide for current and future service to customers?

5) Does the board or council routinely have the water system's finances audited by an independent organization?

II A description of the institutional regulatory, financial, tax, or legal factors at the State, Federal or local level that encourage or impair capacity development.
Alabama Response:

Alabama law requires all water systems meeting the definition of public water system to acquire a water supply permit before construction of any water facility or facility addition. Public Water Supply Regulations - ADEM Administrative Code Division 7 - detail the procedures for obtaining such permits. A permitted public water system must obtain a new (renewal) permit within six years after initial issuance in order to continue legally operating as a public water system in Alabama. The ADEM Commission on April 23, 2000 adopted revisions to the existing Administrative Code that addresses capacity development.

All community and non-transient non-community water systems in Alabama are required to be operated by an person certified by the ADEM as to his/her competency to operate the type facility or system for which the individual is in responsible charge. Operator Certification Regulations – ADEM Administrative Code Division 10 - detail the criteria a person must meet in order to be eligible for examination. Upon successfully passing the certification examination, the individual is issued a certificate that is valid for a period of three years. The operator, subsequent to initial certification, must every three years obtain a minimum of 24 Continuing Education Hours (CEHs) and submit a renewal application to receive a new certificate in order to legally operate a community or non-transient non-community public water system. CEH credit can be obtained through participation in presentations, seminars, and other instructional sessions on subjects related to the water supply industry. Each of these instructional activities must be approved by ADEM for CEH credit and is given a specific number of CEH's that one can obtain through participation.

As a part of the permitting and approval process, plans and specifications for new and additional water supply facilities must be submitted for review as a part of the permit application. These plans and specifications must be developed in accordance with ADEM Administrative Code, Division 7 and the ADEM Design Guidance. The ADEM Design Guidance details technical design aspects of water
facilities that if incorporated into proposed facility plans and specifications could be approved with a water supply permit issued by ADEM. Information contained in these documents address permitting requirements and specifications for most public water facility component and treatment processes used in water systems.

Stringent design and treatment requirements combined with strong enforcement in Alabama has prompted public water systems without adequate financial resources to operate their water system satisfactorily and those water systems without the technical expertise to satisfactorily maintain water facilities, to become a part of an adjacent larger public water system. This alternative results in improved water service to customers and in most cases eliminates a need to substantially increase water rates. Figure 1 graphically shows the continual decline in public water systems in Alabama since 1978 and the continual increase in total customers served by public water during this same period. This chart also demonstrates that the elimination of public water systems through consolidation and other means has not jeopardized the expansion of public water service into unserved areas. Water Supply Regulations in Alabama combined with close supervision of public water systems in the State have been responsible for the elimination of many non-viable, capacity deficient water systems without placing constraints on growth.
Alabama Public Water System History
III A description of how Alabama will use the authority and resources or other means to assist public water systems in complying with NPDWRs, encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems, and assist public water systems in the training and certification of operators.

Alabama Response:

A portion of the authorized set-aside funds from the DWSRF Program have been used by the ADEM WSB to contract with the ARWA to conduct five training sessions throughout the State that attracted water board members, managers, county commissioners, and other administrators with public water systems. The purpose of these meetings was to instruct management level personnel on the importance of their decisions on the technical and financial future of the water system. A retired professor of management from one of the state’s universities provided a large portion of the instruction during the meetings which was also supported by information shared with the participants by other speakers on the use of new technology. The WSB also used this meeting to provide information on the technical needs of water systems which included water supply, treatment and distribution requirements. The meeting sites and times were strategically selected to maximize attendance and participation of water system representatives by minimizing travel.

As mentioned earlier, a portion of the set-aside funds have also been used to fund an individual employed with the ARWA to work with water systems as designated by the WSB so that the status of the system’s capacity deficiency is developed. In addition to this individual’s specific activity, other circuit riders with the Alabama Rural Water Association make contact and work closely with rural water systems throughout the State to address problems with debt repayment, monthly operation report submittal to the WSB, and other non-violation specific problems. They also assist water systems in addressing
aesthetic complaints and related concerns of customers, proper flushing of the distribution system and water loss investigations/evaluations. The WSB meets regularly each month with the ARWA to discuss specific water system problems and areas where assistance by the ARWA can be provided. The ARWA staff provides WSB staff with updates on their contact with water systems between the monthly meetings. During each monthly meeting, the ARWA provides a document detailing specific water system activities they conducted during the prior month and the status of the water system relative to any item or area of concern that was previously discussed. The WSB provides to ARWA a list of water systems with monitoring violations or specific water supply concerns, some where assistance can be provided by ARWA. These meetings have been successful in addressing and resolving several water system capacity problems.

Each quarter the United States Department of Agriculture Rural Development (USDA RD) staff meet with the WSB senior staff to discuss proposed new water system projects or existing water system expansion projects that have been submitted to them for funding. The WSB provides direct feedback to USDA RD staff on the compliance history of the water systems involved and any water system problems identified during annual inspections. In addition, they are supplied with other information the WSB feels is pertinent to any future funding decisions to be made involving the water systems. Through this effort both the funding agency and the WSB are made aware of important information that could impact the water system proposed expansion early on so that any particular problem or deficiency is satisfactorily addressed before the proposal goes forward for funding.

The water system requesting funding is also required to obtain preliminary concurrence from the WSB that is usually included as a part of the final submittal to USDA RD. Before the WSB responds to a request for concurrence with a project, a preliminary engineering report (PER) must be submitted and is evaluated as to its technical, managerial and financial merit. During review of the
PER, WSB staff determines whether 1) the proposal conforms to regulations and
design criteria, 2) there are ample certified operators and management staff
available to take on the additional load with the new facilities, and 3) adequate
revenue is available for salaries and normal operating overhead such as chemical
monitoring. A similar arrangement exists with (ADECA) where the new water
system proposal or proposals for extensions of existing systems to serve
additional customers must receive the concurrence of the WSB before projects are
deemed eligible by ADECA to receive funds from that agency. The WSB also
attends training workshops conducted by ADECA in order to provide specific
information to planners, water systems, and towns relative to funding being
sought by water systems from that agency. Through this close cooperation with
both the funding agencies and the water systems involved, systems without
adequate capacity are not funded.

IV A description of how Alabama will establish a baseline and measure
improvements in capacity with respect to NPDWRs and Alabama's drinking
water law.

Alabama Response:

Water systems in Alabama have for several years had high compliance rates with
federal drinking water quality standards. For instance, during FY99, the
compliance rate with applicable drinking water standards considering all public
water systems was 96%. Because of the traditional high compliance of water
systems with federal and state drinking water standards, improvement in capacity
will be measured more by other factors most of which were discussed previously
in this document. A water system that complies with water quality monitoring and
has no water quality violations can still be considered in many cases to be a non-
viable water system. A water system compliance baseline will be established
using the compliance percentages reported yearly to EPA and changes in these
percentages will be considered when measuring overall capacity improvement of
water systems in the State.
V An identification of persons that have an interest in and are involved in the development and implementation of the capacity development strategy (including all appropriate agencies of Federal, State, and local governments and non-profit PWSs and PWS customers).

Alabama Response:

A drinking water advisory committee was established to consider and provide comments on proposed actions that would affect drinking water. This committee was designed to reflect all elements of the community. Those groups established as members of this committee are:

- Alabama Department of Economic & Community Affairs
- ADEM - Field Operations Division
- ADEM - Groundwater Branch
- ADEM - Municipal Branch
- ADEM - Water Supply
- Alabama/Mississippi Section AWWA
- Alabama Citizens Actions
- Alabama Cooperative Extension System
- Alabama Department of Public Health
- Alabama Environmental Council
- Alabama League of Municipalities
- Alabama Rivers Alliance
- Alabama Rural Water Association
- Alabama Soil Water Conservation Service.
- Alabama Water and Pollution Control Association
- Alabama Water and Waste water Institute
- Alabama Department of Emergency Management
- Auburn University Cooperative Extension Service
- Business Council of Alabama
- Association of County Commissioners of Alabama
- Consulting Engineers Council of Alabama
- EPA, Water Management Division
- Geological Survey of Alabama
- Alabama League of Women Voters
- Mobile County W & FPA
- Tennessee Valley Authority
- U.S. Geological Survey
- USDA, Rural Development

Capacity Development was discussed with comments and suggestions solicited during Drinking Water Advisory meetings in February 1998, March 1999 and November 1999.
before this strategy was placed into written form. Most of the components of Alabama's strategy, although not formalized until now, have already been in use for several years. Alabama's historical water system supervision practice with emphasis on these components has prevented the proliferation of non-viable water systems which is evident by the decrease overall water system numbers since 1978 and the current high compliance rates of active water systems.
July 6, 2022

Dale Froneberger
Safe Drinking Water Branch
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Re: Alabama Department of Environmental Management Asset Management Submission

Dear Mr. Froneberger:

As required by the America’s Water Infrastructure Act of 2018, the Alabama Department of Environmental Management’s Drinking Water Branch is submitting its final asset management supplement to the State’s Capacity Development Strategy. This supplement is an amendment to the existing strategy and no other changes have been made to the overall strategy.

Previously, the Department submitted a draft version to EPA Region 4 for a preliminary review, in which comments were submitted to the Department by the region and headquarters. The Department appreciates the feedback EPA has given and these comments have been addressed in this final submission. Since the preliminary review, asset management has been adopted into the Department’s regulations and has undergone public comment as required by the rule making process.

Thank you for your assistance throughout this process. If you have any questions, please contact me at 334-271-7778 or recaton@adem.alabama.gov.

Sincerely,

[Signature]
Ross Caton, Chief
Water Supply Engineering Section
Drinking Water Branch

CC: Bei Huang/EPA Region 4
Alabama Capacity Development Strategy Supplement: Asset Management

The America’s Water Infrastructure Act of 2018 contains a provision that requires primacy agencies to incorporate strategies to encourage the use of asset management plans at public water systems. In response, the Alabama Department of Environmental Management (ADEM) has prepared this supplement to its Capacity Development Strategy. The plan was shared with stakeholders for input, and was initiated by ADEM starting in 2021.

The Plan

Through a revision to its water supply permitting regulations, ADEM will require new public water systems seeking a water supply permit; existing purchase water systems seeking to produce water; or, for existing public water systems with compliance history and/or deficiencies, as a condition of permit renewal, to submit an asset management plan along with the permit application. The asset management plan shall include five core elements: asset inventory; the required sustainable level-of-service; determination of critical assets; determination of the lowest life-cycle cost options for providing the highest level-of-service over time; and long-term financing strategy. Reviews of the asset management plans will be conducted by ADEM Drinking Water Branch staff to ensure the sufficiency of the plan.

The following outlines the minimum requirements of the five core elements of an asset management plan:

**Asset inventory** shall list the assets the water system currently and plans to own, their locations, their current condition, the remaining useful life, and what is their remaining economic value.

**The required sustainable level-of-service** shall determine what is the demand of their services by their stakeholders, what do the regulations require to maintain the demand of their services, what is the water system’s actual performance, and what are the physical capabilities of their assets.

**Determination of critical assets** shall rank assets of the water system by how critical they are to system operations, determine how assets fail, determine the probability and consequences of asset failure, the costs to repair assets, and determine other (social, environmental, etc.) costs associated with asset failure.

**Determination of the lowest life-cycle cost options for providing the highest level-of-service over time** shall look at alternative strategies that exist for managing accounts; which strategies are most feasible; and what are the costs of rehabilitation, repair, and/or replacement of critical assets.

**Long-term financing strategy** shall analyze whether the water system has enough funding to maintain assets required for the level of service, and if the rate structure is sustainable for long-term needs.

Training and Technical Assistance:

Members of the stakeholders group such as the Alabama Rural Water Association, and Communities Unlimited will conduct training sessions annually in different regions of the state. Training sessions will be focused to Board Members, Managers, City Officials, and certified operators. Training will include in depth discussion on requirements of the five core elements and resources available to water systems to develop an asset management plan. In addition to the training opportunities members of the stakeholders group will provide technical assistance when requested by the water systems or when recommended by ADEM.
Enforcement Action:

ADEM may require water systems with compliance issues as a part of formal enforcement to conduct an asset management plan or attend training to promote the use of an asset management plan to address system compliance. During 2021 ADEM requested two water systems to produce asset management plans by a professional engineer. These requests were based upon deficiencies noted in past inspections that had not been addressed and both water systems experienced major water outages across their distribution systems due to their physical conditions. As a result of the critical assets noted as needing repair in the plans, both water systems were issued formal enforcement actions by the mechanism of a consent order. The consent orders required the water systems to complete the necessary repairs under a schedule of activities. These consent orders and asset management plans have allowed the water systems to gain priority in funding by the Drinking Water State Revolving Fund program.

Funding Activities:

The Alabama State Revolving Fund requires applicants to fill out a priority ranking criteria checklist as a portion of the preapplication process. Included in the checklist are possible bonus points for completing an asset management plan, providing incentive to complete a plan in order to receive priority for funding.

Regulatory Activities:

ADEM conducts routine inspections annually and sanitary surveys at least once every three years of public water systems. In addition to evaluating a system’s viability and identifying deficiencies (significant and minor) during these surveys, information/feedback is gathered concerning the overall Technical, Managerial, and Financial (TMF) capacity of a water system. In FY22 a new sanitary survey form was developed by ADEM for district inspectors to use while conducting the surveys. In the development of this form elements of asset management were incorporated, such as asking questions regarding finances, and procedures in place to sustain critical assets. This information is relayed to technical service providers, such as the Alabama Rural Water Association and Communities Unlimited, through routine meetings and regular correspondence. These providers then provide TMF assessments when necessary, and water systems are required to submit documentation regarding these assessments and any updates to their overall TMF capacity. The five core elements of asset management will be incorporated into this process, and asset management plans will be required from systems when necessary. ADEM will provide the five core elements to the providers prior to conducting the TMF assessments and have discussions directly with the providers on what ADEM requires to be assessed. After the discussions, if ADEM determines that the provider needs more information a training session will be conducted with the provider. Training sessions for public water systems regarding asset management have already begun by the technical providers. In June of 2022 Communities Unlimited provided a board member training course that included a staff member of ADEM’s drinking water branch who discussed briefly about the State’s new asset management rules. Later in the training course a member of Communities Unlimited spoke more in depth about the benefits of asset management, the required elements, and services they can provide. Sessions such as this will continue by technical service providers and ADEM will provide the most up to date content or provide training to the technical service providers if it is deemed necessary.

ADEM does not anticipate many barriers in the implementation of asset management activities. Any potential barriers would mostly likely involve smaller water systems with a population less than 1,000 people with personnel limitations. Cooperation from these systems in the development of an asset management plan may be a potential issue, but continuous correspondence and assistance from the state and technical service providers would most likely overcome this.
ADEM believes that implementation of this asset management strategy will ensure that new water systems will have the proper management and infrastructure to successfully provide quality drinking water for long-term. In addition ADEM will be able to properly evaluate water systems that have compliance issues and make a determination on if a water system has the ability to continue to provide quality drinking water to its customers. ADEM will report to the Governor on all asset management plans reviewed every three years in the Triennial Capacity Development Report and will also report annually to the EPA and its website in the annual drinking water report.

Stakeholder Involvement:

During the development of the capacity development strategy document submitted to the EPA in 2000, a committee of stakeholders was established to provide comments on proposed actions that would affect drinking water. This committee has dissolved since its inception and a smaller, more active stakeholder group has evolved. The ADEM drinking water branch meets quarterly with this stakeholder group which includes members from the Department’s municipal NPDES section, state revolving fund administration, operator certification, the executive director and staff of the Alabama Rural Water Association, the US Department of Agriculture Rural Development, the Alabama Office of Water Resources, and the Alabama Communities Development Block Grant administrators. All of these organizations were members of the original committee. Because this smaller group is much more active and knowledgeable than the original committee, ADEM determined this group was the most effective for input. All of these members were given copies of the draft regulations and strategy supplement prior to the July 2021 quarterly meeting. Input from the group has been incorporated into the final version. Some of the stakeholder suggestions included implementation strategies and grammatical changes, while others approved of the original drafts as written. Implementation strategies included requiring asset management plans as a requirement in the application process in order to receive funding for projects, and providing training to board members outlining the long-term benefits of implementation of an asset management plan. One stakeholder that was not included in the original Capacity Development advisory committee, but was added to the current committee, is the Communities Unlimited southern regional Rural Community Assistance Partnership. ADEM has worked closely with Communities Unlimited over the years to provide technical assistance and training to drinking water utilities. Communities Unlimited will be playing an active role in promoting and training asset management in Alabama. Additional discussions occurred with members of the stakeholders group on how implementation of asset management by ADEM will assist in actions they are taking in their programs. ADEM will work with other agencies and stakeholders to best implement all asset management strategies outlined in this supplement.

The proposed asset management rules in ADEM Admin. Code r. 335-7-4-.04 and 335-7-4-.07 underwent public review and comment for fifty (50) days. During the rulemaking, the proposed regulations were sent to 2,647 individuals, published in four regional newspapers, published in the Alabama Administrative Monthly, posted on the Department’s website, and a public hearing was held at the Department. No comments were received by the Department during the public comment period and therefore no changes were made. The rules were adopted by the Alabama Environmental Management Commission on February 11, 2022 and became effective on April 14, 2022.