

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

August 31, 2010

Mr. Neil Harrington, Town Manager
Town of Salisbury
5 Beach Road
Salisbury, MA 01952

Permittee: Town of Salisbury
PWS ID # 3259000
WMA Permit #9P2-3-18-259.01
Action: 20-Year Permit Renewal

And

Mr. Donald Levesque, Director of Public Works
Salisbury Department of Public Works
39 Lafayette Road
Salisbury, MA 01952

Dear Messrs. Harrington and Levesque:

Please find the attached documents:

- Water Management Act Permit Renewal #9P2-3-18-259.01 for the Town of Salisbury in the North Coastal Basin; and
- Findings of Fact in Support of the Permit Renewal Decision.

The signature on this cover letter indicates formal issuance of the attached document. If you have any questions and would like to meet to discuss the permit, please contact Elizabeth McCann of my staff at (617) 292-5901.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn Haas".

Glenn Haas
Acting Assistant Commissioner
Bureau of Resource Protection

Cc: Tom Mahin, DWP Chief, NERO
R Talkington, Geosphere Environmental Management, Inc., 51 Portsmouth Ave, Exeter, NH 03833
MWWA, and Mass Audubon via email

Y:\DWP Archive\NERO\Salisbury-3259000-WMA-9P2-3-18-259.01PermitRenewal-2010-08-31

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

MassDEP on the World Wide Web: <http://www.mass.gov/dep>

Printed on Recycled Paper

Communication for Non-English Speaking Parties (310 CMR 1.03(5)(a))

English

This document is important and should be translated immediately.

Spanish

Este documento es importante y se debe traducir inmediatamente.

Portuguese

Este original é importante e deve ser traduzido imediatamente.

Italian

Questo documento è importante e dovrebbe essere tradotto immediatamente.

Greek

Αυτό το έγγραφο είναι σημαντικό και πρέπει να μεταφραστεί αμέσως.

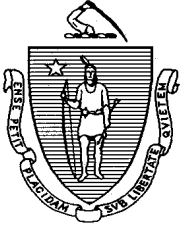
French

Ce document est important et devrait être traduit immédiatement.

Chinese (traditional)

這個文件重要和應該立刻被翻譯。

这个文件重要和应该立刻被翻译。



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

**Findings of Fact in Support of Permit Decision
Town of Salisbury
Water Management Permit # 9P2-3-18-259.01**

The Massachusetts Department of Environmental Protection (MassDEP) has completed its review of the Town of Salisbury's (Salisbury's) Water Management Act (WMA) 20-Year Permit Renewal application in the North Coastal Basin.

In response to your renewal application in the North Coastal Basin, and after reviewing the information that you have provided, MassDEP hereby approves the renewal of Water Management Act permit #9P2-3-18-259.01 in accordance with the "Water Management Act" ("the Act"). MassDEP makes the following Findings of Fact in support of the attached permit renewal, and includes herewith its reasons for approving the permit and for the conditions of approval imposed, as required by M.G.L. c21G, s.11, and the "Massachusetts Water Resources Management Program", 310 CMR 36.00 ("the Regulations").

Town of Salisbury Withdrawal History

Under the Act and Regulations, the Town of Salisbury holds two Water Management registrations, #3-13-259.01 for withdrawals of up to 0.25 million gallons per day (MGD) from Well #7 in the Merrimack River Basin, and #3-18-259.01 for withdrawals of up to 0.81 MGD from Wells #5 and #6 in the North Coastal Basin.

On May 16, 1008, MassDEP issued a permit to Salisbury authorizing additional withdrawals from Well #8 above those previously allocated through registration #3-18-259.01 in the North Coastal Basin. Final approval to bring Well #8 on-line is still pending contingent on Salisbury completing all New Source Approval and Source Water Protection requirements. In the spring of 2009, Salisbury filed to renew its permit which was set to expire on August 31, 2009, to make authorized permitted withdrawals for another 20-year period in the North Coastal Basin. On April 29, 2010, MassDEP sent Salisbury a Permit Renewal Order to Complete that outlined additional information necessary for Salisbury to complete the permit renewal process. Salisbury responded to the Order to Complete on June 11, 2010.

The Water Management Act

Permit Factors

Section 7 of the Act requires that MassDEP issue permits that balance a variety of factors including:

- Reasonable protection of existing water uses, land values, investments and enterprises;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

- resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

Safe Yield Permit Factor

Among the minimum permit factors Section 7 requires is a determination by MassDEP that permitted water withdrawals are within the safe yield of the water source from which they are made. Section 2 of the Act defines “safe yield” as: “the maximum dependable withdrawal that can be made continuously from a water source including ground or surface water during a period of years in which the probable driest period or period of greatest water deficiency is likely to occur; provided however, that such dependability is relative and is a function of storage and drought probability”.

For the purposes of the Water Management Program, MassDEP considers a water source to be any one of Massachusetts’ 27 major river basins. A map of the 27 major river basins has been developed by the Department of Conservation and Recreation and can be viewed at:

<http://www.mass.gov/dcr/waterSupply/intbasin/basins.jpg>

On December 14, 2009, MassDEP, with the assistance and concurrence of a group of stakeholders, identified a methodology for determining an Interim Safe Yield while a final Long-Term Safe Yield is developed. The Interim Safe Yield methodology is described at:

<http://www.mass.gov/dep/water/resources/watercon.htm#managemt>.

This permit is being issued under the Interim Safe Yield methodology adopted by MassDEP on December 14, 2009. MassDEP is using its best efforts to develop the final Long-Term Safe Yield by November 3, 2010.

The final Long-Term Safe Yield methodology will be applied to this permit no later than the 5-Year Review in 2014. Access to water volumes beyond those allocated during Period One (Years 2-5) of this permit is contingent upon the withdrawals authorized in this permit being within the Long-Term Safe Yield, and MassDEP’s completing a 5-Year Review or a permit amendment that incorporates the Long-Term Safe Yield determination into this permit. This permit review will also enable MassDEP to incorporate the latest scientific information and to consider recommendations (including but not limited to stream flow criteria) from the currently ongoing Executive Office of Energy and Environmental Affairs’ Sustainable Water Management Initiative (SWMI), along with United States Geological Survey (USGS) investigative studies, particularly, *Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins (USGS SIR 2009-5272)* which can be viewed at <http://pubs.usgs.gov/sir/2009/5272/>; *Preliminary Assessment of Factors Influencing Riverine Fish Communities in Massachusetts (USGS OFR 2010-1139)*, the USGS full assessment of factors influencing fish communities report expected in 2011, and other pertinent studies or site-specific analyses that become available. If MassDEP determines as a result of the review that any adjustments to the permitted volumes or permit conditions are warranted, those adjustments shall be made through a permit modification.

Findings of Fact for the Performance Standards in Salisbury’s Water Management Permit

MassDEP has determined that there is documented evidence that water withdrawals and an increase in development and impervious area, combined with the out-of-basin export of wastewater, substantially contribute to low flow in the Commonwealth. These low flows impact the ability of rivers and tributaries to adequately serve all of the competing uses described in the Act. To better achieve the balance of competing water uses mandated by the Act, the MassDEP refers to the Water Conservation Standards adopted by the Water Resources Commission.

Specific performance standards are applied to new Water Management permits and to existing permits at the time they are amended, during 5-year permit review, or permit renewal. MassDEP had previously applied performance standards and conditions in Salisbury's permit of May 16, 2008.

Consistent with Section 3 of the Act, the performance standards of 65 residential gallons per capita day or less and 10% or less of unaccounted for water, summer limits on withdrawals, and efforts to offset the impacts of increasing withdrawal volumes are based on the Massachusetts *Water Conservation Standards* approved by the Water Resources Commission in July 2006. These standards can be found at: http://www.mass.gov/Eoea/docs/eea/water/water_conservation_standards.pdf

MassDEP believes these standards are reasonable based on studies and data developed throughout the country, the 1996 AWWA Leak Detection and Water Accountability Committee report on water accountability (*AWWA Journal*; July 1996; pp. 108-111), and the fact that the average values in 2008 for Massachusetts were 62 RGPCD, and 14% UAW. While these performance standards represent the minimum standards required for compliance with the Permit, MassDEP believes that through the implementation of all the terms and conditions of Water Management permits, municipalities can meet the performance standards for RGPCD and UAW.

Salisbury's expiring permit included conditions requiring that they meet the performance standards of 80 RGPCD, and 15% UAW within timelines outlined in that permit. This renewed permit includes updated performance standards of 65 RGPCD and 10% UAW that are based on the Massachusetts Water Conservation Standards adopted by the Massachusetts Water Resources Commission in July 2006. Salisbury has consistently met the condition of 80 RGPCD in recent years, and will meet the more rigorous 65 RGPCD requirement if residential water use remains consistent. Salisbury has not consistently met the UAW condition of 15% in recent years¹. Salisbury will need to track unaccounted-for-water use, and take measures to meet the 10% performance standard as outlined in Special Condition 6 and Appendix B of this permit.

MassDEP will consider any permittee that has been unable to meet the 65 RGPCD or 10% UAW performance standard within 5 years of receiving its permit to be achieving functionally equivalent compliance with the performance standards, if they:

- are complying with the Water Conservation requirements included in the permit,
- have implemented the required limits on nonessential outdoor water use, and
- are making demonstrable efforts to finance, implement and enforce a MassDEP-approved compliance plan.

Because permittees' circumstances vary, a permittee may present an analysis of the cost effectiveness of implementing certain conservation measures required by MassDEP and offer alternative measures. The analysis must explicitly consider environmental impacts and must produce environmental benefits. MassDEP will allow Permittees to:

- Document economic hardship and present an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship;
- Present reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard; and

1

	Standard	2006	2007	2008
RGPCD	80 gpd	62	64	58
UAW*	15 %	30%	19%	17%

*Based on "Confidentially Estimated Municipal Use" documentation for 2006, 2007 and 2008 submitted to MassDEP in June 2010 as part of the WMA permit renewal process.

- Propose specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP Functional Equivalence Plan(s) (See Appendix A & B).

MassDEP will review permittees' detailed, written cost effectiveness analysis to determine whether unique circumstances make specific Best Management Practices (BMPs) less cost-effective than alternatives, or not feasible for a particular PWS when developing the compliance plan.

Findings of Fact for Salisbury's Special Permit Conditions

In issuing permits, MassDEP looks primarily at site-specific impacts and other issues specific to the system, such as impacts to nearby streams, wetlands, or other water users, justification of long-term demand projections and the capacity of permitted withdrawal points. The conditions are intended to ensure the efficient use of water and to mitigate the potential impact of withdrawals.

The summary of permit conditions, as part of MassDEP's findings of fact, is not intended to, and should not be construed as, modifying any of the permit conditions. In the event of any ambiguity between the summary and the actual permit conditions, the permit language shall be controlling.

Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume, reflects the registered withdrawal volume of 0.81 MGD for Wells #5 and #6 and a permitted increase of up to 0.03 MGD which may also be withdrawn from proposed Well #8 for a total authorized withdrawal of 0.84 MGD on an annual average daily basis in the North Coastal Basin. These volumes are the maximum authorized in your expiring permit. The authorized volumes are interim allocations for your system and are reserved pending the preparation of a water-needs forecast for Salisbury.

A water needs forecast was not prepared for Salisbury by the Department of Conservation and Recreation (DCR) because of questions about the available data for your system. Specific concerns include unaccounted-for-water that averaged approximately 23% of total system water use from 2003 through 2007. DCR's specific concerns are outlined in a letter of April 15, 2009 from Anne Monnelly, Acting Director of the Office of Water Resources to Donald Levesque of the Salisbury Department of Public Works.

MassDEP notes that Salisbury requested withdrawals from the North Coastal Basin of up to 0.92 MGD in the permit renewal application. Water Management permits cannot be renewed for more than the amount authorized in the expiring permit, in this case permitted withdrawals of up to 0.03 MGD and total withdrawals of up to 0.84 MGD from the North Coastal Basin. If, after the questions about UAW and general data quality have been resolved, the water needs forecast prepared by DCR shows water needs that exceed the 0.84 authorized for Salisbury in the North Coastal Basin, the Town will need to submit an application for a new permit for increased withdrawals above 0.84 MGD on an annual average daily basis.

Special Condition 2, Maximum Authorized Daily Withdrawal Volume, reflects the maximum daily withdrawal rate for Well #8 according to MassDEP approved Zone II rates. This value has not been changed from your previous permit.

Special Condition 3, Zone of Contribution Delineations, requirement has been met thus no further delineations are required as a condition of this permit.

Special Condition 4, Water Supply Source Protection, Salisbury must meet Massachusetts Wellhead Protection regulations 310 CMR 22.21(2) for Well #8 prior to putting the well on-line.

In June 2010, Salisbury submitted to the MassDEP Water Management Program:

1. an updated Town Zoning Bylaw that amended the Town's Water Resource District, approved on October 26, 2009;
2. an Administrative Environmental Protection Policy Regarding Floor Drains, June 8, 2010; and
3. a letter of January 26, 2010 from the Town to James Persky at the MassDEP NERO office outlining its best efforts to have the Town of Seabrook to extend the protections of 310 CMR 22.21(2) to the portion of the Zone II that lies within Seabrook.

These documents have been forwarded to MassDEP source water protection staff for review. The Town will receive review and comment on the documents from MassDEP source water protection staff under separate cover.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use, as discussed previously, Salisbury's permit requires compliance with the Performance Standard by December 31, 2011. DEP recognized a value of 58 RGPCD for Salisbury in 2008.

Special Condition 6, Performance Standard for Unaccounted for Water, discussed previously, Salisbury's permit required compliance with the Performance Standard by December 31, 2011. DEP recognized a value of 17% UAW for Salisbury in 2008.

Special Condition 7, Seasonal Limits on Nonessential Outdoor Water Use is based upon Salisbury's Residential Gallons per Capita Day (RGPCD) for the preceding year, and will be implemented according to either: 1) calendar triggered restrictions; or 2) streamflow triggered restrictions.

1. Calendar triggered restrictions: Restrictions shall be implemented from May 1st through September 30th. Many public water suppliers will find this option easier to implement and enforce than the streamflow triggered approach.

2. Streamflow triggered restrictions: Restrictions shall be implemented at those times when streamflow falls below designated flow triggers measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1st through September 30th. At a minimum, restrictions shall commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

The basis for streamflow triggers is derived from Aquatic Base Flow (ABF) values calculated by the Sustainable Yield Estimator (SYE)² for simulated natural flow applied to the assigned local USGS stream gage. The two-tiered trigger values are based on flow levels that are protective of aquatic habitat for fish spawning during the spring bioperiod, designated with the June ABF; and protective flows for fish rearing and growth during the summer bioperiod, designated with the August ABF trigger. Protective flow levels are derived from index gage flow data which represent the least altered stream flows in Massachusetts, and are further described in the Department of Conservation and Recreation (DCR)³ and USGS Index Reports⁴.

² Archfield, S.A., Vogel, R.M., Steeves, P.A., Brandt, S.L., Weiskel, P.K., and Garabedian, S.P., 2010, The Massachusetts Sustainable-Yield Estimator: A decision-support tool to assess water availability at ungaged stream locations in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2009-5227, 41 p. plus CD-ROM. See <http://pubs.usgs.gov/sir/2009/5227/>

³ Massachusetts Department of Conservation and Recreation (DCR), 2008 Index Streamflows for Massachusetts, May 2008, Prepared by Office of Water Resources for the Massachusetts Water Resources Commission, 45 p., plus CD-ROM.

⁴ Armstrong, D.S., Parker, G.W., and Richards, T.A., 2008, Characteristics and classification of least altered streamflows in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2007-5291, 113 p., plus CD-ROM.

If Salisbury selects the streamflow approach, it has been assigned the USGS local stream gage of #01101000 – Parker River at Byfield, MA. The June ABF estimated using SYE is 0.92 cubic feet per square mile (cfsm) and the August ABF value is 0.29 cfsm. These cfsm units translate to your local gage streamflow triggers as 20 cubic feet per second (cfs) for May and June, and 6 cfs for July, August and September.

Should the reliability of flow measurement at the Parker River gage be so impaired as to question its accuracy, the Permittee may request MassDEP's review and approval to transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

Drought triggered restrictions are incorporated into the seasonal limits on outdoor water use as outlined in this Special Condition. Times of low streamflow and drought do not always coincide, but both low streamflow and drought conditions can have adverse effects on water supplies, natural resources and aquatic life. Please note that many communities impose drought-based outdoor water use restrictions before the Massachusetts Drought Management Task Force declares a Drought Advisory because drought conditions can begin to impact local water supplies before a regional advisory is declared.

Nothing in this permit is intended to prevent communities from implementing water use restrictions that are more restrictive than those set forth in this permit.

Special Condition 8, Water Conservation Requirements, incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission in July 2006.

Special Condition 9, Requirement to Report Raw and Finished Water Volumes, ensures that the information necessary to evaluate compliance with the conditions included herein is accurately reported.



COMMONWEALTH OF MASSACHUSETTS
 EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
 Governor

IAN A. BOWLES
 Secretary

TIMOTHY P. MURRAY
 Lieutenant Governor

LAURIE BURT
 Commissioner

**WATER WITHDRAWAL PERMIT
 MGL c 21G**

This permit is approved pursuant to the Massachusetts Water Management Act for the sole purpose of authorizing the withdrawal of a volume of water as stated below and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

PERMIT NUMBER: 9P2-3-18-259.01

RIVER BASIN: North Coastal Basin

PERMITTEE: Town of Salisbury
 10 Central Street
 Salisbury, MA 01952

PERMIT RENEWAL ISSUANCE DATE: September 1, 2010

EXPIRATION DATE: August 31, 2029

NUMBER OF WITHDRAWAL POINTS: Groundwater: 1 Surface water: 0

USE: Public Water Supply

DAYS OF OPERATION: 365

LOCATION:

Table 1: Withdrawal Point Identification

Source Name	PWS Source ID Code
Well #8	3259000-08G

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of Salisbury (Salisbury) to withdraw water from the North Coastal River Basin at the rate described below in Table 2. The permitted volume is in addition to the 0.81 million gallons per day previously authorized to Salisbury under Water Management Act Registration #3-18-259.01 for withdrawal from the North Coastal Basin and the 0.25 million gallons per day authorized under Registration #3-13-259.01 in the Merrimack River Basin. The permitted volume is expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each five-year period of the permit term until a water needs forecast is completed for Salisbury by the Department of Conservation and Recreation. Within four (4) years of the date of issuance of this permit, Salisbury must submit documentation in accordance with the Policy for Developing Water Needs Forecasts for Public Water Suppliers and Communities and Methodolgy for Implementation, effective December 13, 2007. In particular, it will be necessary to further address those issues identified by the Department of Conservation and Recreation which resulted in Salisbury receiving an interim alloction..

The Department of Environmental Protection (MassDEP) bases these withdrawal volumes on the raw water volume from the authorized withdrawal points, and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes.

Table 2: Maximum Authorized Annual Withdrawal Volumes for the North Coastal Basin

5-Year Periods		Total Raw Water Withdrawal Volumes			
		Permit		Permit + Registration	
		Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
Period One Years 2-5	9/1/2010 to 8/31/2014	0.03	10.95	0.84	306.60
Period Two* Years 6-10	9/1/2014 to 08/31/2019	0.03	10.95	0.84	306.60
Period Three* Years 11-15	9/1/2019 to 8/31/2024	0.03	10.95	0.84	306.60
Period Four* Years 16-20	9/1/2024 to 8/31/2029	0.03	10.95	0.84	306.60

* This permit is being issued under the interim river basin safe yield methodology. The final long-term river basin safe yield methodology will be applied to this permit no later than the first 5-year permit review in 2014. Access to water volumes beyond those allocated for the first 5-year period is contingent upon the above values being within the Long-Term Safe Yield, and MassDEP’s completing a 5-Year Review or a permit amendment that incorporates the Long-Term Safe Yield determination into this permit.

2. Maximum Authorized Daily Withdrawals From Each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

Table 3: Maximum Daily Withdrawal Volumes

Source Name	PWS Source ID Code	Maximum Daily Rate (MGD)
Well #8	3259000-08G	0.33

3. Zone of Contribution Delineations

Department records show that Salisbury's Well #8 has a MassDEP approved Zone II delineation. No further Zone II work is required as a condition of this permit.

4. Water Supply Source Protection

Salisbury must meet all requirements of Massachusetts Wellhead Protection Regulation 310 CMR 22.21(2) for Well #8 prior to bringing the well on line.

5. Performance Standard for Residential Gallons Per Capita Day Water Use

Salisbury's performance standard for Residential Gallons Per Capita Day (RGPCD) is 65 gallons. Salisbury shall be in compliance with the performance standard by **December 31, 2011**.

Salisbury is required to report its RGPCD water use annually in its Annual Statistical Report (ASR) so as to document compliance with this performance standard. Salisbury's ASR shall include the calculation used to derive that figure as part of its ASR including, without limitation, the source of the data used to establish the service population and the year in which this data was developed.

See Appendix A for information on the requirements if the performance standard for RGPCD is not met.

6. Performance Standard for Unaccounted for Water

Salisbury's performance standard for Unaccounted for Water (UAW) is 10% of overall water withdrawal. Salisbury shall be in compliance with the performance standard by **December 31, 2011**.

UAW is defined as the residual resulting from the total amount of water supplied to a distribution system as measured by master meters, minus the sum of all amounts of water measured by consumption meters in the distribution system, and minus documented confidently estimated municipal use (CEMU) volumes of water. UAW shall include, without limitation: unavoidable leakage, recoverable leakage, meter inaccuracies (unless they fall under the category of source meter calibration which allows for adjustment per results of source meter calibration); errors in estimation of stopped meters, unauthorized hydrant openings, illegal connections, stand pipe overflows, and data processing errors.

CEMU volumes are: fire protection and training, hydrant flushing, flow testing, water main construction and maintenance, bleeders and blowoffs, tank overflow and drainage, sewer and stormwater flushing, street cleaning, source meter calibration and adjustments, major water main breaks (not leak detection). Written documentation of the CEMU volumes must be submitted annually in the Annual Statistical Report (ASR) if they are to be used in any adjustment in the calculation of UAW.

Salisbury is required to report its UAW annually in its Annual Statistical Report (ASR) so as to document compliance with this performance standard. Rockport's ASR shall include the calculation used to derive that figure as part of its ASR including, without limitation, the source of data used, the methodology for calculating UAW and any assumptions used in making the calculation.

See Appendix B for information on requirements if the performance standard for UAW is not met.

7. Seasonal Limits on Nonessential Outdoor Water Use

Salisbury shall limit nonessential outdoor water use through mandatory restrictions from May 1st through September 30th as outlined in Table 4 below.

Salisbury shall be responsible for tracking streamflows and drought advisories and recording when restrictions are implemented if streamflow triggered restrictions are implemented. See Accessing Streamflow and Drought Advisory Website Information in Table 4 for instructions.

Salisbury shall document compliance with the seasonal limits on nonessential outdoor water use annually in its Annual Statistical Report (ASR), and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.

Nothing in this permit shall prevent Salisbury from implementing water use restrictions that are more restrictive than those set forth in this permit.

Water Uses Restrictions

Nonessential outdoor water uses that are subject to mandatory restrictions include:

- irrigation of lawns and landscaping via sprinklers or automatic irrigation systems;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, stucco, pavement or cement.

The following uses may be allowed when mandatory restrictions are in place:

- irrigation to establish a new lawn and new plantings during the months of May and September;
- irrigation of public parks and recreational fields by means of automatic sprinklers outside the hours of 9 am to 5 pm; and
- watering lawns, gardens, flowers and ornamental plants by means of a hand-held hose.

Water uses NOT subject to mandatory restrictions are those required:

- for health or safety reasons;
- by regulation;
- for the production of food and fiber;
- for the maintenance of livestock; or
- to meet the core functions of a business (for example, irrigation by golf courses as necessary to maintain tees, greens, and limited fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

To the extent feasible, all summer outdoor water use should take place before 9 am and after 5 pm when evaporation and evapotranspiration rates are lower.

Table 4 Seasonal Limits on Nonessential Outdoor Water Use

Permittees meeting the 65 RGPCD standard for the preceding year (as reported in the ASR and accepted by MassDEP) must implement either:
1. Calendar Triggered Restrictions from May 1st through September 30th No nonessential outdoor water use from 9 am - 5 pm
2. Streamflow Triggered Restrictions from May 1st through September 30th No nonessential outdoor water use from 9 am - 5 pm whenever: a) Streamflow at the assigned USGS local stream gage, 01101000 Parker River at Byfield, falls below the following designated flow triggers for three (3) consecutive days: <ul style="list-style-type: none">• May 1st through June 30th: 20 cfs (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and• July 1st through September 30th: 6 cfs (based on minimum flows that are protective of habitat for fish rearing and growth during the summer bioperiod). Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven (7) consecutive days; or b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.
Permittees NOT meeting the 65 RGPCD standard for the preceding year (as reported in the ASR and accepted by MassDEP) must implement either:
1. Calendar Triggered Restrictions from May 1st through September 30th a) Nonessential outdoor water use is allowed TWO DAYS per week before 9 am and after 5 pm; and b) Nonessential outdoor water use is allowed ONE DAY per week whenever A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.
2. Streamflow Triggered Restrictions from May 1st through September 30th Nonessential outdoor water use is allowed ONE DAY per week before 9 a.m. and after 5 p.m. whenever: a) Streamflow at the assigned USGS local stream gage, 01101000 Parker River at Byfield, falls below the following designated flow triggers for three (3) consecutive days: <ul style="list-style-type: none">• May 1st through June 30th: 20 cfs (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and• July 1st through September 30th: 6 cfs (based on minimum flows that are protective of habitat for fish rearing and growth during the summer bioperiod). Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven (7) consecutive days; or b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.

Instructions for Accessing Streamflow and Drought Advisory Website Information

Streamflow information is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflows in real time, i.e., the most recent, usually quarterly hourly, reading made at each USGS stream gage.

Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, permittees must use the mean daily streamflow from the preceding day when tracking streamflows.

Mean daily streamflow gage readings are available at the USGS NWIS Web Interface at <http://waterdata.usgs.gov/ma/nwis/current/?type=flow>.

- Scroll down to gage #01101000 Parker River at Byfield.
- Click on the gage number.
- Scroll down to “Provisional Date Subject to Revision – Available data for this site” and click on the drop down menu.
- Click on “Time-series: Daily data” and hit GO.
- Scroll down to the “Available Parameters” box. Within the box, be sure “Discharge (mean)” is checked, then, under “Output Format” click “Table” and hit GO.
- Scroll down to “Daily Mean Discharge, cubic feet per second” table and find the current date on the table.
- Compare the cubic feet per second (cfs) measurement shown on the table to the cfs shown under Streamflow Triggered Restrictions above.

Drought Advisory information is available at the Massachusetts Department of Conservation and Recreation (DCR) Drought Status Website at <http://www.mass.gov/dcr/waterSupply/rainfall/drought.htm>.

- Under “Drought Status Reports”, click on “drought map” on the right-hand side of the page. The color coded map displays the six drought regions in Massachusetts. Restrictions are implemented when a Drought Advisory, Watch, Warning or Emergency is announced through the DCR website.

Public Notice of Water Use Restrictions

Salisbury shall notify its customers of the restrictions and the consequences of failing to adhere to the restrictions.

- For calendar-triggered restrictions, customers shall be notified by April 15th each year.
- For streamflow-triggered restrictions, when streamflow at the assigned USGS local stream gage falls below a streamflow trigger for three consecutive days, customers shall be notified as soon as possible, but within three days of implementing the restrictions.

Notice to customers shall include the following:

- A detailed description of the restrictions and penalties for violating the restrictions;
- The need to limit water use, especially nonessential outdoor water use, to ensure a sustainable drinking water supply and to protect natural resources and streamflow for aquatic life; and
- Ways individual homeowners can limit water use, especially nonessential outdoor water use.

Notice that restrictions have been put in place shall be filed each year with MassDEP within 14 days of the restriction’s effective date. Filing shall be in writing on the Water Use Restrictions Form at <http://www.mass.gov/dep/water/approvals/wmgforms.htm#conserve>.

Notice to customers and MassDEP need not be provided if Salisbury has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

8. Water Conservation Requirements

At a minimum, Salisbury shall implement the following conservation measures forthwith. Compliance with the water conservation requirements shall be reported to MassDEP at each 5-year review of the permit, unless otherwise noted below.

Table 5: Minimum Water Conservation Requirements
System Water Audits and Leak Detection
1. At a minimum, conduct a full leak detection survey within one year of the date of this. The next full leak detection survey shall be completed no later than 3 yrs from the date of last documented leak detection survey.
2. Perform a leak detection survey of the entire distribution system within one year whenever the percentage of unaccounted for water increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, Salisbury shall submit to MassDEP for its review a report detailing the leak detection survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
3. Conduct field surveys for leaks and repair programs in accordance with the <u>AWWA Manual 36</u> .
4. Salisbury shall have repair reports available for inspection by MassDEP. Salisbury shall establish a schedule for repairing leaks as soon as possible and that at a minimum meet the following: <ul style="list-style-type: none"> • Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection. • Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible. • Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except that leaks in freeway, arterial or collector roadways may be repaired when other roadwork is being performed on the roadway. <p>Leaks shall be repaired in accordance with Salisbury’s priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Salisbury shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.</p>
Metering
1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Salisbury reports its system is 100% metered. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards as set forth in <u>AWWA Manual M6 – Water Meters</u> , by August 31, 2009.
3. Salisbury shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by its customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections. The plan shall continue to include placement of sufficient funds in the Town’s annual water budget to calibrate, repair, or replace meters as necessary.
Pricing
1. Continue to implement a water pricing structure that includes the full cost of operating the water supply system. Evaluate rates every three to five years and adjust costs as needed. Full cost pricing factor all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into pricing.
2. Salisbury shall not use decreasing block rates. Decreasing block rates which charge lower prices as water use increases during the billing period, are not allowed by M.G.L. C. 40 § 39L.
Residential and Public Sector Conservation
1. Salisbury shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code, or as amended.
2. Salisbury shall meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. Municipal buildings <ul style="list-style-type: none"> • Salisbury shall, together with its 2010 Annual Statistical Report (ASR), submit documentation and a report identifying which municipally owned public buildings in Salisbury’s service area have not been retrofitted with water saving devices (faucet aerators, low flow shower heads and low flow toilets), along with a schedule to complete retrofitting by January 1, 2014. • On or before January 1, 2014, Salisbury shall ensure that all municipally owned public buildings in the

Table 5: Minimum Water Conservation Requirements	
<p>service area are retrofitted. Municipally owned public buildings that are scheduled for rehab or demolition after the January 1, 2014 deadline for completing the retrofits, may with MassDEP's approval, be exempted from this condition based on the schedule of work. The report required above should identify those buildings and schedule for repairs/demolition.</p>	
Industrial and Commercial Water Conservation	
1.	Salisbury shall review the use records for its industrial, commercial and institutional water users and develop an inventory of the largest water users. The Town shall develop and implement an outreach program designed to inform and (where appropriate) work with its largest industrial, commercial and institutional water users on ways to reduce their water use. Salisbury shall, together with its 2010 Annual Statistical Report (ASR), submit documentation and a report on the outreach plan and its implementation. Such outreach plans may include, but are not limited to: information on water audits, meter sizing, water reuse, low-flow plumbing fixtures, mandatory outdoor water use restrictions, suggestions for contacting trade associations for process specific information on water use reductions, and information on contacting the Executive Office of Environmental Affairs Office of Technical Assistance for Toxics Use Reduction (OTA) which offers a range of assistance and information to help facilities improve water use efficiency and reduce wastewater use. OTA can be contacted at (617) 626-1060 or at www.mass.gov/envir/ota .
2.	Upon request by MassDEP, Salisbury shall report on industrial, commercial and institutional water conservation including the results of its review of water use records for industrial, commercial and institutional water users, the inventory of the largest water users, copies of any outreach materials distributed to industrial, commercial and institutional water users, and to the extent practical, a summary of water use reductions or savings that have resulted. Upon receipt of this report, MassDEP will take whatever action it deems appropriate to promote the interests of the Water Management Act, including without limitation, requiring the Town to take additional actions to reduce industrial, commercial and institutional water use.
Public Education and Outreach	
1.	<p>Develop and implement a Water Conservation Education Plan. Salisbury's Water Conservation Education Plan shall be designed to educate Salisbury's water customers of ways to conserve water. Salisbury's plan may include, but is not limited to, the following actions:</p> <ul style="list-style-type: none"> • Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings; • Public space advertising/media stories on successes (and failures); • Conservation information centers perhaps run jointly with electric or gas company; • Speakers for community organizations; • Public service announcements; radio/T.V./audio-visual presentations; • Joint advertising with hardware stores to promote conservation devices; • Use of civic and professional organization resources; • Special events such as Conservation Fairs; • Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and • Make multilingual materials available as needed.
2.	Upon request of MassDEP, Salisbury shall report on its public education and outreach effort, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.

9. Requirement to Report Raw and Finished Water Volumes

Salisbury shall report annually on its ASR the raw water volumes and finished water volumes for the entire water system and the raw water volumes for individual water withdrawal points.

GENERAL PERMIT CONDITIONS (applicable to all Permittees)

No withdrawal in excess of 100,000 gallons per day over the registered volume (if any) shall be made following the expiration of this permit, unless before that MassDEP has received a renewal permit application pursuant to 310 CMR 36.00.

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of MassDEP to enter and examine any property for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by MassDEP pursuant to MGL c 21G ss 15-17, MGL c 150 ss 111, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until MassDEP approves such transfer in writing, pursuant to a transfer application on forms provided by MassDEP requesting such approval and received by MassDEP at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The permittee shall complete and submit annually, on a form provided by MassDEP, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by MassDEP by the date specified on the form each year. Such report must be mailed or hand delivered to:

Department of Environmental Protection
Drinking Water Program
Water Management Program
One Winter Street, 5th Floor
Boston, MA 02108

7. **Duty to Maintain Records** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
8. **Metering** All withdrawal points included within the permit shall be metered within one year of the date of issuance of the permit. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

APPEAL RIGHTS AND TIME LIMITS

This permit is a decision of MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing under the provisions of MGL c 30A. Any such request must be made in writing, by certified mail and received by MassDEP within twenty-one (21) days of the date of receipt of this permit. No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail or delivered by hand to the local water resources management official in the city or town in which the withdrawal point(s) is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to MassDEP.

CONTENTS OF HEARING REQUEST

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of MassDEP is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of this permit.

FILING FEE AND ADDRESS

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of \$100 must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

EXEMPTIONS

The filing fee is not required if the appellant is a city or town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

WAIVER

MassDEP may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of MassDEP that the fee will create an undue financial hardship. A person, seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts, which support the claim of undue hardship.

Appendix A – Residential Gallons Per Capita Day

I. Compliance Plan Requirement

If the permittee fails to achieve and document compliance with the RGPCD performance standard in its Annual Statistical Report (ASR), then the permittee shall file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

- a. meet the requirements set forth below in Section II;
- b. include measures to be implemented to meet the performance standard; and
- c. include the schedule for implementing such measures.

The filing of a RGPCD Plan shall not constitute a return to compliance, nor shall it affect MassDEP's authority to take action in response to the permittee's failure to meet the performance standard.

If a RGPCD Plan is required, the permittee must:

- a. submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD Plan annually at the time it files its ASR; and
- b. continue to implement the RGPCD Plan until it complies with the performance standard and such compliance is documented in the permittee's ASR for the calendar year in which the standard is met.

II. Contents of a RGPCD Plan

A permittee that does not meet the 65 RGPCD performance standard within 2 years (for Salisbury, December 31, 2011), has the choice to file a RGPCD Plan containing measures that the permittee believes will be sufficient to bring the system into compliance with the performance standard (Individual RGPCD Plan) or may adopt the MassDEP RGPCD Functional Equivalence Plan that includes mandated Best Management Practices (BMPs).

A permittee that has been unable to meet the 65 RGPCD performance standard within 5 years (for Salisbury, December 31, 2014) must implement the MassDEP RGPCD Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

At a minimum, all RGPCD Plans must include a detailed:

- a. description of the actions taken during the prior calendar year to meet the performance standard;
- b. analysis of the cause of the failure to meet the performance standard;
- c. description and schedule of the actions that will be taken to meet the performance standard; and
- d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

RGPCD Plans may be amended to revise the actions that will be taken to meet the performance standard.

Individual RGPCD Plan

Individual RGPCD Plan will document a plan to adopt and implement measures tailored to the specific needs of the water supply system that the permittee believes will be sufficient to bring the system into compliance with the performance standard within three years.

At a minimum, all Individual RGPCD Plans for failure to meet the RGPCD performance standard must include implementation of at least one of the following residential conservation programs:

- a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
- b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets); or
- c. the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of soil moisture sensors or similar climate related control technology on all automatic irrigation systems.

If the permittee is already implementing one or more of these programs, it must include in its Individual RGPCD Plan the continued implementation of such program(s), as well as implementation of at least one additional program. All programs must include a public information component designed to inform customers of the program and to encourage participation in the program.

Without limitation, the Individual RGPCD Plan for failure to meet the RGPCD performance standard may include any of the actions set forth in the MassDEP RGPCD Functional Equivalence Plan below.

MassDEP RGPCD Functional Equivalence Plan

In order to be considered functionally equivalent with the RGPCD performance standard, the permittee must adopt and implement the MassDEP RGPCD Functional Equivalence Plan that requires all the following residential conservation programs:

- a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
- b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets);
- c. the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of soil moisture sensors or similar climate related control technology on all automatic irrigation systems;
- d. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
- e. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction include water saving devices and low water use appliances; and
- f. the implementation of monthly or quarterly billing.

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP RGPCD Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits.

Suppliers will be able to present:

- a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
- b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP RGPCD Functional Equivalence Plan; and
- c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.

Appendix B – Unaccounted for Water

I. Compliance Plan Requirement

If the permittee fails to achieve and document compliance with the 10% UAW performance standard in its Annual Statistical Report (ASR), then the permittee must file with that ASR an Unaccounted-for-Water Compliance Plan (UAW plan) which shall:

- a. meet the requirements set forth below in Section II;
- b. include measures to be implemented to meet the performance standard; and
- c. include the schedule for implementing such measures.

The filing of a UAW plan shall not constitute a return to compliance, nor shall it affect MassDEP's authority to take action in response to the permittee's failure to meet the performance standard.

If a UAW plan is required, the permittee must:

- a. submit information and supporting documentation sufficient to demonstrate compliance with its UAW plan annually at the time it files its ASR; and
- b. continue to implement the UAW plan until it complies with the performance standard and such compliance is documented in the permittee's ASR for the calendar year in which the standard is met.

II. Contents of an UAW Compliance Plan

A permittee that does not meet the 10% UAW performance standard within 2 years (for Salisbury, December 31, 2011), has the choice to file a UAW Plan containing measures that the permittee believes will be sufficient to bring the system into compliance with the performance standard (Individual UAW Plan) or may adopt the MassDEP UAW Functional Equivalence Plan that includes mandated Best Management Practices (BMPs).

A permittee that has been unable to meet the 10% UAW performance standard within 5 years (for Salisbury, December 31, 2014) must implement the MassDEP UAW Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

At a minimum, all UAW plans must include a detailed:

- a. description of the actions taken during the prior calendar year to meet the applicable performance standard;
- b. analysis of the cause of the failure to meet the performance standard;
- c. description and schedule of the actions that will be taken to meet the performance standard; and
- d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

UAW plans may be amended to revise the actions that will be taken to meet the performance standard.

Individual UAW Compliance Plan

Individual UAW Plan will document a plan to adopt and implement measures tailored to the specific needs of the water supply system that the permittee believes will be sufficient to bring the system into compliance with the performance standard within three years. Individual UAW compliance plans may include any of the actions set forth in the MassDEP UAW Functional Equivalence Plan compliance plan below.

MassDEP UAW Functional Equivalence Plan

In order to be considered functionally equivalent with the UAW performance standard, the permittee must adopt and implement the MassDEP UAW Functional Equivalence Plan that, at a minimum, requires all the following measures:

- a. within one year of filing the MassDEP UAW Functional Equivalence Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to MassDEP; within one year of completing the audit and leak detection survey, conduct sufficient repairs to reduce by 75% (by water volume) all leaks detected in the survey;

- within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to reduce permittee's UAW to 10% or the minimum level possible;
- b. if UAW remains above 10%, repeat the steps outlined in paragraph a.;
 - c. implementation of a program that ensures the inspection and evaluation of all water meters and, as appropriate, the repair, replacement and calibration of water meters in accordance with the following schedule:
 - Large Meters (2" or greater) - within one year of filing the MassDEP UAW Functional Equivalence Plan
 - Medium Meters (1" or greater and less than 2") - within two years of filing the MassDEP UAW Functional Equivalence Plan
 - Small Meters (less than 1") – within three years of filing the MassDEP UAW Functional Equivalence Plan;
 - d. implementation of monthly or quarterly billing within three years of filing the MassDEP UAW Functional Equivalence Plan; and
 - e. within one year of filing the MassDEP UAW Functional Equivalence Plan, implementation of a water pricing structure that achieves sufficient revenues to pay the full cost of operating the system including, without limitation, the costs of repairs under paragraph a., the costs of meter repairs, replacements and calibrations under paragraph c., the costs of employees and equipment, and ongoing maintenance and capital costs.

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP UAW Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:

- a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
- b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP UAW Functional Equivalence Plan; and
- c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship