MISSISSIPPI STATE DEPARTMENT OF HEALTH OFFICE OF HEALTH PROTECTION BUREAU OF PUBLIC WATER SUPPLY



PUBLIC WATER SYSTEMS CAPACITY DEVELOPMENT PROGRAM

Annual Implementation Report Fiscal Year 2009 (7/1/2008 - 6/30/2009)

September 2009

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Mississippi State Department of Health Bureau of Public Water Supply

Public Water Systems Capacity Development Program Fiscal Year 2009 Annual Implementation Report

INTRODUCTION

The Federal Safe Drinking Water Act Amendment of 1996 (SDWA) requires that each state implement a Capacity Development Program to improve the technical, managerial, and financial capacity of the state's public water systems and to prevent the creation of new public water systems that do not have the technical, managerial, and financial capacity to comply with current and future provisions of the SDWA. This report describes Mississippi's Capacity Development Program, and outlines the implementation results for the Fiscal Year (FY) 2009, which was the period from July 1, 2008, through June 30, 2009. Submission of this report to the Environmental Protection Agency (EPA) Region IV in Atlanta, GA, represents one of the capacity development reporting milestones required by EPA to avoid withholdings from the FY-2010 Drinking Water State Revolving Fund (DWSRF) capitalization grant.

NEW PUBLIC WATER SYSTEMS CAPACITY DEVELOPMENT

To comply with the new system's capacity development requirements of the SDWA, the State Legislature revised the Mississippi Safe Drinking Water Law (Section 41-26-8, MS Code of 1972 Annotated) to require that all new community and non-transient non-community public water systems be approved by the Mississippi State Department of Health (MSDH) prior to beginning construction. During the review/approval process, MSDH is required to ensure that each proposed new public water system has the technical and operational capacity to comply with all SDWA requirements. That is effectively the Program's first "control point," or point at which the State can exercise authority to ensure the demonstration of new system capacity. Another control point created by the State Law revision is the requirement that MSDH, prior to approving a new public water system, have written certification from the Executive Director of Mississippi's Public Utilities staff, that the new water system has the managerial and financial capacity to comply with all SDWA requirements. There have been no changes in the State's legal authority or control points since the inception of the Capacity Development Program.

EXISTING PUBLIC WATER SYSTEMS CAPACITY DEVELOPMENT

Implementation of a capacity development program for existing public water systems is a more difficult task than for new public water systems. The State of Mississippi has approximately 1,240 public water systems that are subject to the requirements of the SDWA. The vast majority of these systems are very small with limited financial resources. Due to this limited financial capacity, it was impossible to develop a mandatory program in the State that would force these small systems to immediately make the necessary capital improvements to achieve the technical, managerial, and financial capacity needed to comply with the SDWA. The method implemented by MSDH consists primarily of two components: 1) stringent enforcement of existing laws and regulations, and 2) implementation of a capacity assessment rating system and technical assistance procedures.

ENFORCEMENT - MSDH stringently enforces the water supply laws and regulations, such as those related to: 1) SDWA water quality standards, 2) waterworks operator licensure, 3) overloaded water systems, 4) corrosion control treatment facilities, 5) cross-connection control, and 6) water system board member training. By strictly enforcing these laws and regulations, MSDH ensures that a safe supply of

drinking water is provided by the existing public water systems with adequate technical, managerial, and financial capacity. This strict enforcement also encourages water systems without adequate capacity to seek alternate methods of compliance, including the pursuit of mergers with neighboring viable water systems. In most cases, these mergers (or "consolidations") result in the creation of much more viable public water systems, which do have the capacity to provide safe drinking water to their customers.

CAPACITY ASSESSMENT - MSDH developed a Capacity Assessment Rating Program to promote existing systems' capacity development. The technical, managerial, and financial capacity of each public water system is rated annually during inspections conducted by MSDH regional engineers. The assessment is basically an "open book test," since water system personnel are aware of the questions and the necessary requirements to receive credit. The maximum rating possible is "5.0" and a rating of "0.0" is the minimum. The rating is determined using Capacity Assessment Forms (CAFs), which consist of three major sections: 1) Technical, 2) Managerial, and 3) Financial. Each section includes key questions designed to identify those tasks that a public water system must routinely accomplish in order to demonstrate their technical, managerial, and financial capacity to comply with all current and proposed requirements of the SDWA and Mississippi's Safe Drinking Water Law.

The CAFs were developed by MSDH in conjunction with an Advisory Committee consisting of representatives of various "stakeholder" organizations such as the Mississippi Rural Water Association, the Mississippi Municipal League, the Mississippi Water & Pollution Control Operators' Association, the RCAP-Community Resources Group, Mississippi Development Authority, Public Service Commission, etc., as well as selected water system managers and operators from throughout the State. Each year, prior to the annual Advisory Committee meeting (typically held in the last quarter of the State Fiscal Year), the MSDH staff reviews and evaluates the program, discusses the strengths, weaknesses, and any related problems which may have arisen during the fiscal year. The staff then determines any needed program changes to be reported to and discussed with the Advisory Committee. After input is obtained from the Advisory Committee at the annual meeting, MSDH makes changes as needed to the Program strategy for the following year's CAFs.

At the June, 2009, meeting of the Advisory Committee, some minor changes and/or recommendations were suggested to the current capacity development/implementation strategy. Based on input from this year's Advisory Committee meeting, those changes included the following:

Questions / Comments

Question M2 (1): To award credit for a Water User's Agreement (M2-(1) in the Capacity Assessment), the Committee proposed that the agreement must address a requirement for the final approval of onsite wastewater systems prior to setting a permanent water meter. The committee proposed to add the underlined portion to the existing criteria that we use to score M2-(1).

Have acceptable written policies and procedures for operation of this water system been formally adopted and available for review? Must have water user's agreement (connection fees, late charges, deposits, <u>wastewater requirements</u>) and subdivision/line extension policy (written procedures requiring developer/system to obtain MSDH approval before construction begins) and either By-laws or Job Description for Employees (employee handbook), plus at least two of the following: emergency or contingency plan (chain of command, phone numbers, etc.), flushing program (flushing schedule w/records), fire hydrant policy

(maintenance schedule, flow tests, agreement w/fire dept.), or updated distribution map (can be updated by operator).

Comments:

- A clear definition of "permanent" vs. "temporary" water connection in the regulation must be supplied.

- Water systems' scores should not suffer because of lack of implementation of an onsite issue.

- Recommended approach was to require the potential applicant to present documentation from the county health department that final approval had been granted. Recommended language in a water user's agreement would be that "the applicant agrees/certifies that they have followed the guideline set forth by the Health Department as they pertain to onsite wastewater disposal."

General Committee Comments

The committee also made suggestions or comments regarding implementation of the capacity assessment program. These are as follows:

- Expressed the need for consistency from regional engineer to regional engineer in conducting the assessments. Committee members suggested periodic discussion of capacity assessment questions during regularly scheduled monthly meetings.
- Indicated that both Vulnerability Assessments and Emergency Response Plans need to be updated at least annually. MSDH staff stated that they were in agreement with this suggestion and are currently considering this in the review of required capacity assessment documents.
- Indicated that the tank inspection frequency is acceptable.
- Suggested that pump tests be required annually on all well pumps, and possibly every other year on service pumps. MSDH staff will consider adding a pump test requirement with frequency being decided at a later time.
- Suggested cross-checking information on water systems with "low pressure areas" that DWSRF receives from systems applying for stimulus money with our scoring of T4-(3).
- Recommended that systems closely examine water rates every year. MSDH staff reminded the committee that according to question F2, systems are required to adopt a "water rate review policy". Additionally, in order for a water system to get credit for F1, it must have either raised rates at least once every five years or analyzed receipts and expenditures to show that a rate increase is not needed.

Appendix A contains copies of the three CAFs used during FY-2009. Included are the: 1) Standard Form – used for community public water systems, 2) Private Form – used for public water systems that are owned by private investors, and 3) Non-Transient Non-Community Form – used for public water systems that provide water to 25 or more of the same individuals, in a non-residential manner, on a daily basis (schools, industries, etc.).

TECHNICAL ASSISTANCE – One of the major advantages to the MSDH Capacity Assessment Rating is to aid the department in identifying public water systems that are at risk of becoming unable to provide

safe and adequate drinking water to their customers. Once systems are shown to have low capacity, efforts are then made to provide assistance to improve those water systems within the limits of funding. With the aid of the Small System Technical Assistance Set-Aside and the State Program Management Set-Aside provided through the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program and the Bureau of Public Water Supply Staff, MSDH can and has provided needed capacity assistance at no cost to the water systems. The set-asides have given MSDH the ability to contract with technical assistance providers such as Community Resources Group (CRG), Mississippi Rural Water Association (MsRWA), and the Mississippi State University Extension Service (MSU-ES) to provide specialized assistance beyond what MSDH Bureau of Public Water Supply staff is able to provide. The assistance these provide include: 1) Comprehensive and Intermediate Technical Assistance provided by CRG; 2) PEER Review Program provided by MSU-ES; and 3) Hands-On Operator Training provided by MsRWA.

MSDH provides the technical assistance contractors for both the PEER Review and Comprehensive and Intermediate Assistance programs an annual list of public water systems determined to be in the most need of assistance based on the previous year's capacity assessment scores and SDWA violations. Periodic reports are provided by the contractors to MSDH to confirm that the assistance being provided is proving to be beneficial to the public water supplies of Mississippi.

The Comprehensive and Intermediate technical assistance provided through CRG allows the water system officials and staff to receive one-on-one assistance to improve their overall capacity ratings. Whether it is obtaining new management policies, financial budgeting, or operational improvements, the assistance provided is specific and specialized, based on the water supply's needs. MSDH Regional Engineering staff may also recommend additional systems that they deem needing technical assistance. CRG then performs an assessment of the system by meeting with the officials and operator. After the assessment, CRG develops a specialized task list of assistance for the system. After MSDH's approval of the list, CRG, in cooperation with the system, proceeds in executing the tasks.

The PEER Review program provides improved technical operations to the water supply staff through peer to peer interaction. The program pairs select water system operators with needy water system operators to assist them in preparing for annual MSDH inspections. Similar to comprehensive and intermediate technical assistance, MSDH provides a list of poorly performing systems to MSU-ES. MSU-ES contacts those referred systems do determine their interest in participating in the PEER Review Program. It should be noted that participation in the program by water systems is voluntary in nature. Additionally, MSU-ES also advertises the benefits of the PEER Review Program at various trade shows and in publications. A water system desiring a PEER Review contacts MSU-ES personnel. They, in turn, set up a meeting for all parties involved, including at a minimum: the PEER Review Operators, the water system operator, and the responsible official(s). At that meeting, all the components of the capacity assessment are performed including an onsite inspection of the water system. A report by the review team is later generated outlining the issues raised at the meeting, including suggestions for possible improvements that could be made for the benefit of the water system and its users. Whereas the comprehensive and intermediate assistance emphasizes managerial and financial components, the PEER Review Program emphasizes technical components while providing some managerial and financial assistance.

The Hands-On Operator Training, provided by MsRWA, provides small system operators specialized "hands-on" training and skills they need in order to better operate their water systems on a daily basis. Some operators, especially new ones, may not have all the needed hands-on skills in order to effectively operate the water system. The trainings held throughout the State provide participants with experience in actual hands-on skills such as meter repair, chlorinator repair, fire hydrant maintenance, leak detection,

etc. Newly acquired skills could lead to potential cost savings to the water system, since operators learn how to make repairs themselves rather than hiring help.

MSDH has noted significant improvements to the water systems following the implementation of the assistance programs. The comprehensive or intermediate assistance has shown an average capacity assessment improvement of 0.37 points after assistance is received. More specifically, the Town of Crenshaw improved from a score of 2.00 to 3.67 in a year, and the City of Picayune improved its score from 1.33 to 3.00 in a year. Sometimes, real improvements become evident over a period of years such as in the case of Thrasher Water Association. Over a four-year period, this water system improved its score by 1.67 points. Additionally, the PEER Review program has seen an average improvement of 0.32 points after assistance is provided by the PEER Review operators.

MSDH has found that the majority of public water systems are making efforts to improve, even though, as previously indicated, the Capacity Development Program for existing systems is not mandatory. There are no specific penalties for a water system refusing assistance (which does occasionally occur) or failing to improve/maintain their Capacity Assessment Rating. However, such actions do have inherent consequences. The annual capacity assessment results for all systems are publicized either in a paper of local circulation or on the MSDH website. Similar to the way the Consumer Confidence Report (CCR) is perceived, a primary goal of the program is for the public, not just the public water systems, to take an active role in assuring the quality of the State's water supply. The general public desires that their utilities be in compliance with laws and regulations, be viable for the future, and provide the best quality water at a reasonable cost.

Additional indirect consequences of failing to take action to improve Capacity Assessment Ratings include: 1) "losing" to neighboring water systems, and 2) receiving lower priority when seeking certain government funding. Regarding funding priority, the State's DWSRF Loan Program contains priority ranking incentives related to Capacity Assessment Ratings, and other government agencies such as the Mississippi Developmental Authority (CDBG Program) have begun using a portion of the Capacity Assessment Rating to evaluate applicants for funding. Since the Program's inception, it has created a type of "peer pressure" among many water systems who consider the annual Capacity Assessment Rating to be a competition, much like a sports tournament, where the competing systems strive to achieve a score higher than other systems in the area. This competition results in more viable water systems, which ultimately translates into a benefit to the customers and the general public.

RESULTS

The efficacy of Mississippi's Capacity Development Program is best demonstrated by the actual results. No new public water systems approved within the last three years have appeared on EPA's "Significant Non-compliers (SNC)" lists. During that same three-year period, Capacity Assessment Ratings on average have progressively increased. Appendix B contains a complete listing of the Technical, Managerial, Financial, and Overall/Average Capacity Assessment Ratings (scores) of Mississippi's public water systems for FY-2007, FY-2008, and FY-2009.

When reviewing the data, the following should be considered: The overall impact due to Hurricane Katrina is essentially gone, and the six coastal counties have long since resumed normal operations. Within the presented data please note that several systems have been consolidated. They will be indicated with the "CON" designation as they were consolidated with existing water supplies. Any newly created water supplies are identified by "NS".

Appendix C contains individual 7-Year Distribution Charts (FY-2003 to FY-2009) of the scores for each category. This information clearly reflects a trend in all categories away from lower scores (0 through 3) and toward higher scores (4 and 5) and, thus, toward improved capacity for water systems throughout the State. Mississippi's Capacity Development Program continues to prove very effective in producing the desired result of protecting public health by improving the technical, managerial, and financial capacities of the public water systems throughout the State.

PUBLIC INVOLVEMENT

A primary goal of the Capacity Development Program is for the public, not just the public water systems, to take an active role in assuring the quality of the State's water supply. Customers of public water systems which have received a high rating are encouraged to contact their water system officials to congratulate them for doing an excellent job of operating and managing their water system. Likewise, customers of public water systems which have received a low rating are strongly encouraged to contact their water system officials and request a copy of the system's most recent Capacity Assessment Form. That form will quickly identify the areas where the water system needs improvement to become a more viable system. A lower rating could indicate that the system is more likely to be non-viable and, thus, unable to protect public health by complying with all SDWA requirements. Customers of such systems are also strongly encouraged to get involved with their water system to ensure that any needed improvements are completed.

FUTURE

With new regulations going into effect, systems may have additional difficulty with compliance. It becomes obvious that the need for small system technical assistance will increase in the future. MSDH intends to prepare for these challenges by providing targeted compliance assistance for the SDWA regulations associated with the Ground Water Rule, the Disinfection By-Products Rule, and the newly adopted State Fluoride Regulation. The assistance will be provided through funds afforded by the American Recovery and Reinvestment Act of 2009, but it will have a profound effect on compliance, the capacity assessment program and water systems' scores. It is projected that asset management and sustainable infrastructure will be a major part of future needs and requirements of water systems. Additional funding provided to the DWSRF program will allow for more specialized assistance in the previously mentioned areas of asset management planning or sustainable infrastructure to the water systems in the State. Additionally, water system officials of 10,000 population and less are now required to attend Board Management Training. We believe that this is having a positive impact on capacity assessment scores.

SUMMARY

Through the passage of proper legislation, the strict enforcement of existing laws and regulations, and the implementation of sound capacity assessment and technical assistance procedures, Mississippi continues a Capacity Development Program that effectively provides for higher levels of technical, managerial, and financial capacity of new and existing public water systems throughout the State. The program also provides an additional benefit to the public in the form of better utilization of assistance resources and funding. Although a few changes have been made this year, the annual evaluation process, along with the Advisory Committee review and public involvement, will help to assure that any needed future changes are identified and implemented in a timely manner.

If there are questions regarding the information presented in this report, or if you have recommendations for improving the Public Water System Capacity Development Program, please contact:

Keith Allen, P.E., Director Bureau of Public Water Supply P. O. Box 1700 Jackson, MS 39215-1700

Note that copies of this report may be obtained by calling 601-576-7518, or by accessing the Mississippi State Department of Health's website at <u>www.msdh.state.ms.us</u>, by clicking on "Publications," then "Water Supply," then "Reports 2009."

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APPENDIX A

Fiscal Year 2009 Capacity Assessment Forms

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Mississippi Department of Health Bureau of Public Water Supply

FY 2009 Public Water System Capacity Assessment Form

NOTE: This form must be comple regional engineer of the Bureau of	eted whenever a routine sanitary Public Water Supply	survey of a public water system is conducted by a
PWS ID#: Class	s: Survey Date:	County:
Public Water System:		Conn:
		Pop:
CAPACITY RATING DETH	ERMINATION	
Technical (T) Capacity Rating: [] Managerial (M) Capacit	y Rating [] Financial (F) Capacity Rating []
Capacity Rating = $\frac{T + M + F}{3} = \frac{1}{3}$	- =	Overall Capacity Rating =
Completed by on		

Comments:

Technical Capacity Assessment		Point Award
[T1] 1) Was the water treatment process functioning properly? [Y N] (i.e. Is pH, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey? (No significant deficiencies/adequacy of security)? [Y N] (NOTE: Equipment deficiencies must be identified in survey report.) (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T2] Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [Y N NA]	Y - 1pt. N - 0pt.	
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? $[\underline{Y} \ \underline{N}]$ 2) Was log book up to date and properly maintained and did it show that MDH Minimum JOB Guidelines for W. W. Operators were being met? $[\underline{Y} \ \underline{N}]$ 3) Was the water system properly maintained at the time of survey? $[\underline{Y} \ \underline{N}]$ 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? $[\underline{Y} \ \underline{N}]$ (NOTE: All YESs required to receive point)		
[T4] 1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? [Y N] 2) Is water system overloaded? (i.e. serving customers in excess of MDH approved design capacity)? [Y N] 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? [Y N] (based on operator information, customer complaints, MDH records, other information) (NOTE: YES FOR #1 AND NOs FOR #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt.	
[T5] Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) [Y N] (NOTE: Must be documented on survey report)	Y - 1pt. N - 0pt.	
TECHNICAL CAPACITY RATING = [] (Total Points)		

PWS ID #: _____ Survey Date: _____

Managerial Capacity Assessment	Point Scale	Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M2] 1) Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies available for review during the survey? [Y N] 2) Have all board members (in office more than 12 months) completed Board Member Training? [Y N NA] 3) Does the Board of Directors meet monthly and were minutes of Board meetings available for review during the survey? (NOTE: Quarterly meetings allowed if system has an officially designated full time manager) [Y N NA] (NOTE: ALL YESs or NAs required to receive point. NA - Not Applicable)	All Y - 1 pt. Else - 0 pt.	
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [Y N]	N - 1pt. Y - 0pt.	
[M4] Has the water system developed a long range improvements plan and was this plan available for review during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M5] 1) Does the water system have an effective cross connection control program in compliance with MDH regulations? [Y N] 2) Was a copy of the MDH approved bacti site plan and lead/copper site plan available for review during the survey and do the bacti results clearly show that this approved plan is being followed? [Y N] (NOTE: All YESs required to receive point)	A11 Y - 1 pt. Else - 0 pt.	
MANAGERIAL CAPACITY RATING = [] (Total Points)		

Financial Capacity Assessment	Point Scale	Point Award
[F1] Has the water system raised water rates in the past 5 years? [Y N] (NOTE: Point may be awarded if the water system provides acceptable financial documentation clearly showing that a rate increase is not needed, i.e. revenue has consistently exceeded expenditures by at least 10%, etc.)	Y - 1pt. N - 0pt.	
[F2] Does the water system have an officially adopted policy requiring that water rates be routinely reviewed and adjusted as appropriate and was this policy available for review during the survey? $[Y N]$	Y - 1pt. N - 0pt.	
[F3] Does the water system have an officially adopted cut-off policy for customers who do not pay their water bills, was a copy of this policy available for review by the regional engineer, and do system records (cut-off lists, etc.) <u>clearly</u> show that the water system effectively implements this cut-off policy? [Y N]	Y - 1pt. N - 0pt.	
[F4] Was a copy of the water system's officially adopted annual budget available for review by the regional engineer and does the water system's financial accounting system clearly and accurately track the expenditure and receipt of funds? [Y N]	Y - 1pt. N - 0pt.	
[F5 - Municipal Systems] 1) Is the municipality current in submitting audit reports to the State Auditor's Office? $[\underline{Y} \ \underline{N}]$ 2) Was a copy of the latest audit report available for review at the time of the survey? $[\underline{Y} \ \underline{N}]$ 3) Does this audit report clearly show that water and sewer fund account(s) are maintained separately from all other municipal accounts? $[\underline{Y} \ \underline{N}]$ (NOTE: Yes answer to all questions required to receive point.)	All Y - 1 pt. Else - 0 pt.	
[F5 - Rural Systems] 1) Has the rural water system filed the required financial reports with the State Auditor's Office and were these reports available for review? [Y N] 2) Does the latest financial report show that receipts exceeded expenditures? [Y N] (NOTE: Yes answer to both questions required to receive point)	All Y - 1 pt. Else - 0 pt.	
FINANCIAL CAPACITY RATING = [] (Total Points)		

Mississippi Department of Health Bureau of Public Water Supply Capacity Development Rating Form Assessment Criteria 01 July 2008 - 30 June 2009

Technical Capacity

- **T1 (1)** Was the water treatment process functioning properly? Corrosion control plants: within +/- 0.5 of target pH (approximately 8.4, Langlier Index, or 7.2-7.8 if adding phosphate for corrosion AND minimum phosphate residual of 0.5 mg/L as P or 1.5 mg/L as PO4 (most test kits)), Iron removal plants: finished water Fe < 0.3 mg/l, Chlorine: Adequate at plant to provide free residual throughout system, spot checked on system, Systems adjusting Fluoride: 0.7 1.3 mg/l
- **T1 (2)** Was needed water system equipment in place and functioning properly at the time of survey? (no significant deficiencies/adequacy of security)? Adequate security: locked fence around wells/treatment plant/tank (6' or 5' + barbed wire at top), locked hatches on water storage tanks (operator verifies), Completed security vulnerability self assessment and emergency response plan. Required equipment in place (i.e., phosphate and/or fluoride feeders on all wells if required), major components sized correctly if affects water quality or quantity, major components working at time of inspection unless provisions for repairs made. Must be noted on inspection report. Must have a usable backup source of water.
- T2 Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? Maintenance and painting contracts, tank inspection reports, operator can inspect own tank if he/she writes a report and/or takes pictures, painted if needed.
- T3 (1) Was the certified waterworks operator or his/her authorized representative present for survey? Operator or representative must be present unless emergency; operator of record shouldn't miss two in a row.
- T3 (2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met? Log book: Cl2 recorded as required, pH, Fe, Fluoride, and phosphate where applicable, major events recorded (fix major leaks, replace chlorine cylinder, equipment repairs, etc.) Part time operator must make required entries in log book to show MSDH MINIMUM JOB GUIDELINES are met. Major events can be recorded separately (work orders).
- T3 (3) Was the water system properly maintained at the time of survey? Grass cut, packing not leaking excessively, plant presentable, etc.
- T3 (4) Did the operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? Must have appropriate test kits, fresh reagents, and able to perform tests (where applicable: chlorine, pH, iron, fluoride, phosphate). Regional engineer may perform tests to verify operator's results. Chlorine test must be performed by operator at all inspections.
- T4 (1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? Requires metered connections and master meter or annual pump test with run time. Must show calculating water loss at least quarterly.
- T4 (2) Is the water system overloaded? Cannot exceed MSDH design capacity, consecutive systems overloaded if supplier overloaded or based on hydraulic calculations or pressure recording.

- T4 (3) Was there any indication that the water system is/has been experiencing low pressure in any part(s) of the distribution system? Documented by hydraulics or pressure recording, or verified by operator. Must be documented on inspection report
- **T5 Does the water system have the ability to provide water during power outages?** Credit given for generators, can give credit for emergency tie-ins w/ system w/ generator if hydraulics work, credit given for right angle drive if motor attached during survey, may be required to operate during inspection. Credit given for generator on trailer if quick-connect, systems with elevated storage may share generator on trailer, must have prior agreement.

Managerial Capacity

- M1 Were all SDWA required records maintained in logical and orderly manner and available for review? In one location, sample results, MSDH correspondence, copy of CCR report, etc.
- M2 (1) Have acceptable written policies and procedures for operating this water system been formally adopted and available for review? Must have water users agreement (connection fees, late charges, deposits) and subdivision/line extension policy (written procedure requiring developer/system obtain MSDH approval before construction begins) and either By-laws or Job Description for Employees (employee handbook), plus at least two of the following: Emergency or contingency plan (chain of command, phone numbers, etc.), Flushing program (flushing schedule w/ records), Fire hydrant policy (maintenance schedule, flow tests, agreement w/ fire dept.), or Updated distribution map (can be updated by operator).
- M2 (2) Have all Board Members (in office more than 12 months) completed Board Member Training? Must have certificate (or copy) available for review. This does not apply to Municipalities with population over 10,000.
- M2 (3) Does Board meet monthly and were minutes of Board meetings available for review? Allow quarterly meetings with full time manager. Manager must be appointed by the board and documentation of appointment provided.
- M3 Has the water system had any SDWA violations since the last Capacity Assessment? System and Regional Engineer's records
- M4 Has the water system developed a long range improvement plan and was this plan available for review? Hydraulic analysis, engineering report, completed State Needs Survey Form or list of goals prepared by operator and adopted by board, can give credit for major improvement project within past 5 years. Plan in use should indicate progress towards improvements.
- M5(1) Does the water system have an effective cross connection program in compliance with MSDH regulations? Shall include the following: Cross connection policy, records of backflow preventers installed on the system, current test results for each backflow preventer on system.
- M5(2) Was a copy of the MDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed? Copy of sampling site plans available and bacti results show plan is being followed.

Financial Capacity

- F1 Has the water system raised water rates in the past 5 years? Credit also allowed if revenue exceeds expenditures (excluding out of pocket for major improvements and depreciation) by 10% for past five years.
- F2 Does the water system have an official policy requiring rates routinely reviewed and adjusted if necessary? Must be in minutes showing adopted

- F3 Is the water system following an official cut off policy? Must be published (in minutes or on bills), must follow policy (cut off customers who by policy should be cut off)
- F4 Was a copy of system's adopted annual budget available for review and does financial accounting system clearly and accurately track receipts and expenditures? Must provide copy of budget and balance sheet (income statement) for review.
- F5 Is the municipality current in submitting audit reports to State Auditor? Was audit report (Municipal) available for review? Were water and sewer fund accounts separate from other accounts? List of violators, copy in records, can accept CPA audit report
- F5 1) Has the water system filed financial report with State Auditor and copy available (Rural) for review? List of violators, copy in records, can accept CPA audit report 2) Does the latest report show that receipts exceed expenditures? Excluding out of pocket for major improvements

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Mississippi Department of Health Bureau of Public Water Supply

FY 2009 Public Water System Capacity Assessment Form

NOTE: This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply.

PWS ID#: Class:	_ Survey Date:	County:	
Public Water System:			
Certified Waterworks Operator:			Pop:
CAPACITY RATING DETERM			
Technical (T) Capacity Rating: []	Managerial (M) Capacity Rating [_] Fin	nancial (F) Capacity Rating []
Capacity Rating = $\frac{T + M + F}{3} = \frac{1}{3} = \frac{1}{3}$		Overall	Capacity Rating =

Completed by on

Comments:

Technical Capacity Assessment		Point Award
[T1] 1) Was the water treatment process functioning properly? [Y N] (i.e. Is ph, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey (no significant deficiencies/adequacy of security)? [Y N] (NOTE: Equipment deficiencies must be identified in survey report.) (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T2] Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [Y N NA]	Y - 1pt. N - 0pt.	
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? $[\underline{Y} \ \underline{N}]$ 2) Was log book up to date and properly maintained and did it show that MDH minimum job guidelines for W.W. Operators were being met? $[\underline{Y} \ \underline{N}]$ 3) Was the water system properly maintained at time of survey? $[\underline{Y} \ \underline{N}]$ 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? $[\underline{Y} \ \underline{N}]$ (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T4] 1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? $[Y N]$ 2) Is the water system overloaded? $[Y N]$ 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? $[Y N]$ (based on operator information, customer complaints, MSDH records, other information) (NOTE: YES FOR #1 AND NOs FOR #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt.	
[T5] Does the water system have the ability to provide water during power outages?(i.e. generator, emergency tie-ins, etc.) [Y N] (NOTE: Must be documented on survey report)	Y - 1pt. N - 0pt.	
TECHNICAL CAPACITY RATING = [] (Total Points)		

PWS ID #: _____

Survey Date: _____

Management Capacity Assessment		Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M2] Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies available for review during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [Y N]	N - 1pt. Y - 0pt.	
[M4] Has the water system developed a long range improvements plan and was this plan available for review during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M5] 1) Does the water system have an effective cross connection program in compliance with MDH regulations? [Y N] 2) Was a copy of the MDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed? [Y N] (NOTE: All YESs required to receive point)		
MANAGEMENT CAPACITY RATING = [] (Total Points)	

MANAGEMENT CAPACITY RATING = [____] (Total Points)

Financial Capacity Assessment		Point Award
[F1] Does the water system have a PSC issued certificated service area? [<u>Y N</u>]	Y - 1pt. N - 0pt.	
[F2] Has the water system petitioned PSC for a rate increase within the past five years? (NOTE: Point may be awarded if the water system provides acceptable documentation clearly showing that a rate increase is not needed, i.e., revenue has consistently exceeded expenditures by at least 10%, etc.) [Y N]	Y - 1pt. N - 0pt.	
[F3] Does the water system have an officially adopted cut-off policy for customers who do not pay their water bills, was a copy of this policy available for review by the regional engineer, and do system records (cut-off lists, etc.) <u>clearly</u> show that the water system effectively implements this cut-off policy? [Y N]	Y - 1pt. N - 0pt.	
[F4] Was a copy of the water system's officially adopted annual budget available for review by the regional engineer and does the water system's financial accounting system clearly and accurately track the expenditure and receipt of funds? [<u>Y N</u>]	Y - 1pt. N - 0pt.	
[F5] 1) Are annual financial reports routinely filed with the Public Utility Staff and were copies of these reports available for review by the regional engineer at the time of the survey? [Y N] 2) Does the latest financial report show that system receipts exceed expenditures? [Y N] (NOTE: Yes answer to both questions required to receive point)	A11 Y - 1 pt. Else - 0 pt.	
FINANCIAL CAPACITY RATING = [] (Total Points)		

Mississippi Department of Health Bureau of Public Water Supply Capacity Development Rating Form Assessment Criteria 01 July 2008 - 30 June 2009

Technical Capacity

- **T1 (1)** Was the water treatment process functioning properly? Corrosion control plants: within +/- 0.5 of target pH (approximately 8.4, Langlier Index, or 7.2-7.8 if adding phosphate for corrosion AND minimum phosphate residual of 0.5 mg/L as P or 1.5 mg/L as PO4 (most test kits)), Iron removal plants: finished water Fe < 0.3 mg/l, Chlorine: Adequate at plant to provide free residual throughout system, spot checked on system, Systems adjusting Fluoride: 0.7 1.3 mg/l
- **T1 (2)** Was needed water system equipment in place and functioning properly at the time of survey? (no significant deficiencies/adequacy of security)? Adequate security: locked fence around wells/treatment plant/tank (6' or 5' + barbed wire at top), locked hatches on water storage tanks (operator verifies), Completed security vulnerability self assessment and emergency response plan. Required equipment in place (i.e., phosphate and/or fluoride feeders on all wells if required), major components sized correctly if affects water quality or quantity, major components working at time of inspection unless provisions for repairs made. Must be noted on inspection report. Must have a usable backup source of water.
- T2 Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? Maintenance and painting contracts, tank inspection reports, operator can inspect own tank if he/she writes a report and/or takes pictures, painted if needed.
- T3 (1) Was the certified waterworks operator or his/her authorized representative present for survey? Operator or representative must be present unless emergency; operator of record shouldn't miss two in a row.
- T3 (2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met? Log book: Cl2 recorded as required, pH, Fe, Fluoride, and phosphate where applicable, major events recorded (fix major leaks, replace chlorine cylinder, equipment repairs, etc.) Part time operator must make required entries in log book to show MSDH MINIMUM JOB GUIDELINES are met. Major events can be recorded separately (work orders).
- **T3 (3)** Was the water system properly maintained at the time of survey? Grass cut, packing not leaking excessively, plant presentable, etc.
- T3 (4) Did the operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? Must have appropriate test kits, fresh reagents, and able to perform tests (where applicable: chlorine, pH, iron, fluoride, phosphate). Regional engineer may perform tests to verify operator's results. Chlorine test must be performed by operator at all inspections.
- T4 (1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? Requires metered connections and master meter or annual pump test with run time. Must show calculating water loss at least quarterly.
- **T4 (2)** Is the water system overloaded? Cannot exceed MSDH design capacity, consecutive systems overloaded if supplier overloaded or based on hydraulic calculations or pressure recording.
- T4 (3) Was there any indication that the water system is/has been experiencing low pressure in any part(s) of the distribution system? Documented by hydraulics or pressure recording, or verified by operator. Must be documented on inspection report
- T5 Does the water system have the ability to provide water during power outages? Credit given for generators, can give credit for emergency tie-ins w/ system w/ generator if hydraulics work, credit given for

right angle drive if motor attached during survey, may be required to operate during inspection. Credit given for generator on trailer if quick-connect, systems with elevated storage may share generator on trailer, must have prior agreement.

Managerial Capacity

- M1 Were all SDWA required records maintained in logical and orderly manner and available for review? In one location, sample results, MSDH correspondence, copy of CCR report, etc.
- M2 (1) Have acceptable written policies and procedures for operating this water system been formally adopted and available for review? Must have water users agreement (connection fees, late charges, deposits) and subdivision/line extension policy (written procedure requiring developer/system obtain MSDH approval before construction begins) and either By-laws or Job Description for Employees (employee handbook), plus at least two of the following: Emergency or contingency plan (chain of command, phone numbers, etc.), Flushing program (flushing schedule w/ records), Fire hydrant policy (maintenance schedule, flow tests, agreement w/ fire dept.), or Updated distribution map (can be updated by operator).
- M2 (2) Have all Board Members (in office more than 12 months) completed Board Member Training? Must have certificate (or copy) available for review. This does not apply to Municipalities with population over 10,000.
- M2 (3) Does Board meet monthly and were minutes of Board meetings available for review? Allow quarterly meetings with full time manager. Manager must be appointed by the board and documentation of appointment provided.
- M3 Has the water system had any SDWA violations since the last Capacity Assessment? System and Regional Engineer's records
- M4 Has the water system developed a long range improvement plan and was this plan available for review? Hydraulic analysis, engineering report, completed State Needs Survey Form or list of goals prepared by operator and adopted by board, can give credit for major improvement project within past 5 years. Plan in use should indicate progress towards improvements.
- M5(1) Does the water system have an effective cross connection program in compliance with MSDH regulations? Shall include the following: Cross connection policy, records of backflow preventers installed on the system, current test results for each backflow preventer on system.
- M5(2) Was a copy of the MDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed? Copy of sampling site plans available and bacti results show plan is being followed.

Financial Capacity

- F1 Does the water system have a Certificate of Need and Necessity (certificated service area) issued by PSC? Copy of tariff or PSC filings
- F2 Has the water system petitioned PSC for a rate increase in the past 5 years? Credit given if the water system provides acceptable documentation clearly showing that receipts consistently exceed expenditures by 10%.
- **F3** Is the water system following an official cut off policy? Must be published in tariff or lease agreement, must follow policy (cut off customers who by policy should be cut off).
- F4 Was a copy of system's adopted annual budget available for review and does financial accounting system clearly and accurately track receipts and expenditures? Must provide copy of budget and balance sheet(income statement) for review.
- F5 1) Does the water system file annual financial reports with PSC and copy available for review? Must provide copy.

2) Does the latest financial report show that receipts exceed expenditures? Excluding out of pocket for major improvements.

Mississippi Department of Health Bureau of Public Water Supply



FY 2009 Public Water System Capacity Assessment Form

NOTE: This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply.

Certified Waterworks Operator:

CAPACITY RATING DETERMINATION

Technical (T) Capacity Rating: [___] Managerial (M) Capacity Rating [___]

Capacity Rating = $\frac{T+M}{2} = \frac{1}{2}$

Overall Capacity Rating = _____

_____Pop: _____

Completed by on

Comments:

Technical Capacity Assessment	Point Scale	Point Award
[T1] 1) Was the water treatment process functioning properly? [Y_N] (i.e. Is pH, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at time of survey? (No significant deficiencies/adequacy of security) [Y_N] (NOTE: Equipment deficiencies must be identified in survey report.) (NOTE: All YESs or NAs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T2] Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [Y N NA]	Y - 1pt. N - 0pt.	
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? $[Y N]$ 2) Was log book up to date and properly maintained and did it show that MDH Minimum Job Guidelines for W.W. Operators were being met? $[Y N]$ 3) Was water system properly maintained at time of survey? $[Y N]$ 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? $[Y N]$ (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T4] 1) Does water system routinely track water production and were acceptable water production records available for review by the regional engineer? $[Y \ N]$ 2) Is water system overloaded? (i.e. serving customers in excess of MDH approved design capacity)? $[Y \ N]$ 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? $[Y \ N]$ (based on operator information, customer complaints, MSDH records, other information) (NOTE: YES for #1 and NOs for #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt.	
[T5] Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) [Y N] NOTE: Systems may provide bottled water if included as part of a published emergency plan.	Y - 1pt. N - 0pt.	
TECHNICAL CAPACITY RATING = [] (Total Points)		

__ PWS ID #: _____ Survey Date: _____

Management Capacity Assessment		Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M2] Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies and procedures available for review during the survey? [Y N]	Y - 1pt. N - 0pt.	
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [Y N]	N - 1pt. Y - 0pt.	
[M4] Has the water system developed a preventive maintenance schedule and was a copy of this schedule available for review during survey? [Y N]	Y - 1pt. N - 0pt.	
[M5] 1) Does the water system have an effective cross connection control program in compliance with MSDH regulations? [Y N] 2) Was a copy of the MDH approved bacti sample site plan and lead and copper sample site plan available for review and do bacti results clearly show this approved plan is being used for all bacti monitoring? [Y N]	A11 Y - 1 pt. Else - 0 pt.	
MANAGEMENT CAPACITY RATING = [] (Total Points))	

Non-Com Form

Mississippi Department of Health Bureau of Public Water Supply Capacity Development Rating Form Assessment Criteria 01 July 2008 - 30 June 2009

Technical Capacity

- T1 (1) Was the water treatment process functioning properly? Corrosion control plants: within +/- 0.5 of target pH (approximately 8.4, Langlier Index, or 7.2-7.8 if adding phosphate for corrosion AND minimum phosphate residual of 0.5 mg/L as P or 1.5 mg/L as PO4 (most test kits)), Iron removal plants: finished water Fe < 0.3 mg/l, Chlorine: Adequate at plant to provide free residual throughout system, spot checked on system, Systems adjusting Fluoride: 0.7 1.3 mg/l</p>
- T1 (2) Was needed water system equipment in place and functioning properly at the time of survey? (no significant deficiencies/adequacy of security)? Adequate security: locked fence around wells/treatment plant/tank (6' or 5' + barbed wire at top), locked hatches on water storage tanks (operator verifies), Completed security vulnerability self assessment and emergency response plan. Required equipment in place (i.e., phosphate and/or fluoride feeders on all wells if required), major components sized correctly if affects water quality or quantity, major components working at time of inspection unless provisions for repairs made. Must be noted on inspection report. Must have a usable backup source of water.
- T2 Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? Maintenance and painting contracts, tank inspection reports, operator can inspect own tank if he/she writes a report and/or takes pictures, painted if needed.
- T3 (1) Was the certified waterworks operator or his/her authorized representative present for survey? Operator or representative must be present unless emergency; operator of record shouldn't miss two in a row.
- T3 (2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met? Log book: Cl2 recorded as required, pH, Fe, Fluoride, and phosphate where applicable, major events recorded (fix major leaks, replace chlorine cylinder, equipment repairs, etc.) Part time operator must make required entries in log book to show MSDH MINIMUM JOB GUIDELINES are met. Major events can be recorded separately (work orders).
- T3 (3) Was the water system properly maintained at the time of survey? Grass cut, packing not leaking excessively, plant presentable, etc.
- T3 (4) Did the operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? Must have appropriate test kits, fresh reagents, and able to perform tests (where applicable: chlorine, pH, iron, fluoride, phosphate). Regional engineer may perform tests to verify operator's results. Chlorine test must be performed by operator at all inspections.
- T4 (1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? Requires metered connections and master meter or annual pump test with run time. Must show calculating water loss at least quarterly.
- T4 (2) Is the water system overloaded? Cannot exceed MSDH design capacity, consecutive systems overloaded if supplier overloaded or based on hydraulic calculations or pressure recording.

- T4 (3) Was there any indication that the water system is/has been experiencing low pressure in any part(s) of the distribution system? Documented by hydraulics or pressure recording, or verified by operator. Must be documented on inspection report
- T5 Does the water system have the ability to provide water during power outages? Credit given for generators, can give credit for emergency tie-ins w/ system w/ generator if hydraulics work, credit given for right angle drive if motor attached during survey, may be required to operate during inspection. Credit given for generator on trailer if quick-connect, systems with elevated storage may share generator on trailer, must have prior agreement.

Managerial Capacity

- M1 Were all SDWA required records maintained in logical and orderly manner and available for review? In one location, sample results, MSDH correspondence, copy of CCR report, etc.
- M2 Have acceptable written policies and procedures for operating this water system been formally adopted and available for review? Must have water users agreement (connection fees, late charges, deposits) and subdivision/line extension policy (written procedure requiring developer/system obtain MSDH approval before construction begins) and either By-laws or Job Description for Employees (employee handbook), plus at least two of the following: Emergency or contingency plan (chain of command, phone numbers, etc.), Flushing program (flushing schedule w/ records), Fire hydrant policy (maintenance schedule, flow tests, agreement w/ fire dept.), or Updated distribution map (can be updated by operator).
- M3 Has the water system had any SDWA violations since the last Capacity Assessment? System and Regional Engineer's records
- M4 Has the water system developed a long range improvement plan and was this plan available for review? Hydraulic analysis, engineering report, completed State Needs Survey Form or list of goals prepared by operator and adopted by board, can give credit for major improvement project within past 5 years. Plan in use should indicate progress towards improvements.
- M5(1) Does the water system have an effective cross connection program in compliance with MSDH regulations? Shall include the following: Cross connection policy, records of backflow preventers installed on the system, current test results for each backflow preventer on system.
- M5(2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed? Copy of sampling site plans available and bacti results show plan is being followed.

APPENDIX B

Capacity Assessment Ratings

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2003

■ 2004 □ 2005

200620072008

6-Year Technical Score Distribution

Scores

6-Year Managerial Score Distribution



5-Year Financial Score Distribution



