

Table S1. Non-technical compliance 2009 and 2011.

MALAMULELE TREATMENT WATER PLANT

19 August 2009

TABLE 1.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.2			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	

	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assessment of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?		0
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	

	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		22	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.163	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?		0
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	

Total score attained for <i>Financial Systems</i>	10
Weight for <i>Financial Systems</i>	0.1
Total weighted score for <i>Financial Systems</i>	0.0091

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.7		
Criterion	Yes =1	No = 0

2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		11	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?		0

	Is there a Consumer Service to which non-compliance can be reported?		0
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		3	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.025	

TABLE 1.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Malamulele treatment water plant <u>92.9 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.163
2D: Financial Systems	0.091
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.025
TOTAL WEIGHTED SCORE	0.929

TABLE 1.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i>

	Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

VONDO TREATMENT PLANT

18 August 2009

TABLE 2.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.2			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant	1	

	available?		
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assm of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	

	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
ng C on di	Are the responsibilities of process controllers, supervisors and plant managers in		0

	line with their salary?		
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		22	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.163	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	

Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	

	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?		0
Maximum possible score for <i>SHEQ</i>		11	
Total score attained for <i>SHEQ</i>		10	
Weight for <i>SHEQ</i>		0.15	
Total weighted score for <i>SHEQ</i>		0.136	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?	1	
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?		0
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		5	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.042	

TABLE 2.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Vondo treatment plant <u>94.1</u> %	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.163
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.136

2G: Community Involvement and Awareness	0.042
TOTAL WEIGHTED SCORE	0.941

TABLE 2.10 NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

MUTSHEDZI PLANT

19 August 2009

TABLE 3.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.2			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assessment of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for Management Practices		3	
Total score attained for Management Practices		3	
Weight for Management Practices		0.2	
Total weighted score for Management Practices		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualification of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	

	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?		0
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		21	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.156	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.5		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		

2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or	1	

	poor?		
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
m e n t a l	Are process controllers satisfied with their working environment?	1	

	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		11	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for Community Involvement		6	
Total score attained for Community Involvement		5	
Weight for Community Involvement		0.05	
Total weighted score for Community Involvement		0.042	

TABLE 3.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Mutshedzi package plant <u>94.7 %</u>	

Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.156
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.042
TOTAL WEIGHTED SCORE	0.947

TABLE 3.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

MUTALE REGIONAL WATER TREATMENT PLANT

19 August 2009

TABLE 4.1	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1

2B:	Management Practices	0.2
2C:	Human Resources	0.2
2D:	Financial Systems	0.1
2E:	Communication Systems	0.2
2F:	Safety, Health and Environmental Quality	0.15
2G:	Community Involvement and Awareness	0.05
TOTAL		1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.2			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assessment of tactical plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	

	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.4		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		
2C: Human Resources		

Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?		0
	Are there specific criteria or formal rules to be qualified for training?		0
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	

	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		26	
Total score attained for <i>Human Resources</i>		19	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.146	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	

Total weighted score for <i>Financial Systems</i>	0.1
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Water Safety	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	

	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		11	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?		0
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health	1	

	authority?		
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		4	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.033	

TABLE 4.90	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Mutale Regional water treatment plant <u>92.9 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.146
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.033
TOTAL WEIGHTED SCORE	0.929

TABLE 4.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i>

	Acceptable compliance
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TSHEDZA PACKAGE PLANT

19 August 2009

TABLE 5.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.2			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	

	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assessment of tactical plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?		0
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		13	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>			

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WSPs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	

Total score attained for <i>Management Practices</i>	3
Weight for <i>Management Practices</i>	0.2
Total weighted score for <i>Management Practices</i>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?		0
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	

	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		21	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>			

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
ment	Is the procurement system transparent?	1	

	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>			

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>			

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for <i>SHEQ</i>		11	
Total score attained for <i>SHEQ</i>		11	
Weight for <i>SHEQ</i>		0.15	
Total weighted score for <i>SHEQ</i>			

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.8		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		
2G: Community involvement and awareness		

Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?		0
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		4	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>			

TABLE 5.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Tshedza Package plant <u>93.1 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.0928
2B: Management Practices	0.2
2C: Human Resources	0.155
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.033
TOTAL WEIGHTED SCORE	0.931

TABLE 5.10
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:

Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

DZINGAHE PACKAGE PLANT

19 August 2009

TABLE 6.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.2		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		
2A: Management Issues		
1 of 1	Does a strategic plan for the assessment of drinking water supply systems	1

	exist?		
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assm of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?		0
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		13	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.0929	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.3		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		
2B: Management Practices		
Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water	1	

	treatment plants?		
	Are the WSPs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for Management Practices		3	
Total score attained for Management Practices		3	
Weight for Management Practices		0.2	
Total weighted score for Management Practices		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.4			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	

	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		22	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.163	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?		0
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds,	1	

	scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?		
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		10	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.091	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	

	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?		0
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?		0
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for <i>SHEQ</i>		11	
Total score attained for <i>SHEQ</i>		9	
Weight for <i>SHEQ</i>		0.15	

Total weighted score for SHEQ	0.123
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?		0
	Is there a Consumer Service to which non-compliance can be reported?		0
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		3	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.25	

TABLE 6.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Dzingahe Package plant <u>89.5 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.093
2B: Management Practices	0.2
2C: Human Resources	0.163
2D: Financial Systems	0.091

2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.123
2G: Community Involvement and Awareness	0.025
TOTAL WEIGHTED SCORE	0.895

TABLE 6.10 NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

MALAMULELE TREATMENT WATER PLANT

10 May 2011

TABLE 7.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05

TOTAL	1.0
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.2			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assessment of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for Management Issues		14	
Total score attained for Management Issues		14	
Weight for Management Issues		0.1	

Total weighted score for <i>Management Issues</i>	0.1
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	

Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?	1	
	Has it been done according to the new classification system?	1	
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		24	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.178	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.5		
Criterion	Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT		

2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.6			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	

	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.7			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
m e n t a l	Are process controllers satisfied with their working environment?	1	

	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		11	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.8			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for Community Involvement		6	
Total score attained for Community Involvement		5	
Weight for Community Involvement		0.05	
Total weighted score for Community Involvement		0.042	

TABLE 7.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Malamulele treatment water plant <u>97.0 %</u>	
Compliance Criterion	Weighted Score

2.	NON-TECHNICAL ASSESSMENT	
2A:	Management Issues	0.1
2B:	Management Practices	0.2
2C:	Human Resources	0.178
2D:	Financial Systems	0.1
2E:	Communication Systems	0.2
2F:	Safety, Health and Environmental Quality	0.15
2G:	Community Involvement and Awareness	0.042
TOTAL WEIGHTED SCORE		0.97

TABLE 7.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

VONDO TREATMENT PLANT

13 May 2011

TABLE 8.1	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2

2C:	Human Resources	0.2
2D:	Financial Systems	0.1
2E:	Communication Systems	0.2
2F:	Safety, Health and Environmental Quality	0.15
2G:	Community Involvement and Awareness	0.05
TOTAL		1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.2			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assessment of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	

	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.3			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WSPs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.4			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	

	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?	1	
	Has it been done according to the new classification system?	1	
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?	1	
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		25	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.185	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA’s budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	
NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			

Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.7			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based- targets are met in terms of providing safe drinking water to all	1	

	consumers?		
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?		0
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		10	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.136	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.8			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?	1	
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		6	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.05	

TABLE 8.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Vondo treatment plant <u>97.1 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.185
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.136
2G: Community Involvement and Awareness	0.05
TOTAL WEIGHTED SCORE	97.1

TABLE 8.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

MUTSHEDZI PLANT

12 May 2011

TABLE 9.1
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING

Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.2			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assm of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	

Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.3			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WSPs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.4		
Criterion	Yes = 1	No = 0
2. NON-TECHNICAL ASSESSMENT		

2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?	1	
	Has it been done according to the new classification system?	1	
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?	1	
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	

Maximum possible score for <i>Human Resources</i>	27
Total score attained for <i>Human Resources</i>	25
Weight for <i>Human Resources</i>	0.2
Total weighted score for <i>Human Resources</i>	0.185

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	

	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		11	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	

Maximum possible score for <i>Community Involvement</i>	6
Total score attained for <i>Community Involvement</i>	5
Weight for <i>Community Involvement</i>	0.05
Total weighted score for <i>Community Involvement</i>	0.042

TABLE 9.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Mutshedzi package plant <u>97.7 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.185
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.042
TOTAL WEIGHTED SCORE	97.7

TABLE 9.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

TABLE 10.1	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.2			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	

	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assm of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	

Total weighted score for <i>Management Practices</i>	0.2
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?	1	
	Has it been done according to the new classification system?	1	
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?	1	
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	

	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		25	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.185	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	

	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for <i>SHEQ</i>		11	
Total score attained for <i>SHEQ</i>		11	
Weight for <i>SHEQ</i>		0.15	
Total weighted score for <i>SHEQ</i>		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.8		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		
2G: Community involvement and awareness		

Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		5	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.042	

TABLE 10.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Mutale Regional Water Plant <u>97.7 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.185
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.042
TOTAL WEIGHTED SCORE	97.7

TABLE 10.10
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:

Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

TSHEDZA PACKAGE PLANT

12 May 2011

TABLE 11.1 NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.2			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Does a strategic plan for the assessment of drinking water supply systems exist?		1	

	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assm of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?		0
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		13	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.093	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.3		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		
2B: Management Practices		
Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water	1	

	treatment plants?		
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for <i>Management Practices</i>		3	
Total score attained for <i>Management Practices</i>		3	
Weight for <i>Management Practices</i>		0.2	
Total weighted score for <i>Management Practices</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	
	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant Classification	Is the plant classified by DWAF?	1	

	Has it been done according to the new classification system?	1	
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?	1	
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		25	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.185	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	

Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.5			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	

Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or poor?	1	
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	

Total weighted score for <i>Communication Systems</i>	0.2
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.7			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based- targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
Environmental Quality	Are process controllers satisfied with their working environment?	1	
	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for <i>SHEQ</i>		11	
Total score attained for <i>SHEQ</i>		11	
Weight for <i>SHEQ</i>		0.15	
Total weighted score for <i>SHEQ</i>		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.8

Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?		0
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for <i>Community Involvement</i>		6	
Total score attained for <i>Community Involvement</i>		4	
Weight for <i>Community Involvement</i>		0.05	
Total weighted score for <i>Community Involvement</i>		0.033	

TABLE 11.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Tshedza Package plant <u>96.1 %</u>	
Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.093
2B: Management Practices	0.2
2C: Human Resources	0.185
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.033

TOTAL WEIGHTED SCORE	96.1
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TABLE 11.10	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

DZINGAHE PACKAGE PLANT

11 May 2011

TABLE 12.1	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING	
Criterion	Weight
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.2
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.05
TOTAL	1.0

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.2
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Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2A: Management Issues			
Assessment of strategic plans	Does a strategic plan for the assessment of drinking water supply systems exist?	1	
	Are there preventive strategic plans for drinking water quality management?	1	
	Is there a strategic plan for recruitment of personnel per water treatment plant available?	1	
	Is there a strategic plan for operational monitoring and verification of drinking water system?	1	
	Is there a strategic plan for sharing and clarifying roles and responsibilities among all personnel involved in the production of safe drinking water quality?	1	
	Does a strategic plan for training and development of water plant personnel, and for community involvement and awareness exist?	1	
	Is there any funding strategic plan for implementation of drinking water quality management programmes?	1	
Assm of tact plans	Does a tactical plan for handling emergencies including communication of such emergencies to communities exist?	1	
	Is the overall periodic overseeing of water care function performed?	1	
	Is there maintenance and asset management plans?	1	
Assessment of operational plans	Is the attendance of process controllers (and in particular shift workers) at the treatment plant monitored? Is there a clock-in-system for the attendance?	1	
	Is the superintendent available to operators on a day-to-day basis?	1	
	Is there a substitute system plan put in place when one of the operators is ill or away attending a course?	1	
	Are the supervisors and process controllers aware of their job requirements? Are job descriptions available?	1	
Maximum possible score for <i>Management Issues</i>		14	
Total score attained for <i>Management Issues</i>		14	
Weight for <i>Management Issues</i>		0.1	
Total weighted score for <i>Management Issues</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.3			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2B: Management Practices			
	Do the WSPs use existing local (Emanti/DWAF) or international management practices? Are they implementing them in their water treatment plants?	1	
	Are the WPSs able to understand the existing local or international practices and implementing them correctly?	1	
	When local or international practices are not available, are the WSPs able to draw their own criteria?	1	
Maximum possible score for Management Practices		3	
Total score attained for Management Practices		3	
Weight for Management Practices		0.2	
Total weighted score for Management Practices		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.4			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2C: Human Resources			
Personnel at the plant	Is the number of personnel related to the size of the plant?		0
	Are the needs of process controllers/supervisors and shift workers per plants adequate?		0
	Are there specific guidelines/rules for shift workers and their deployment?	1	
	How many operators are there in total? How many shift workers?	1	
Qualifications of Personnel	How many operators with qualifications in the DWAF categories?	1	
	Are personnel being correctly applied according to their qualifications?	1	
	Are there guidelines or formal rules for upgrading of qualifications?	1	
Training Needs	Are there in service training programmes and policies? What is the in-service training policy of the WSA?	1	

	Do process controllers / supervisors / managers know what training opportunities and courses are available?	1	
	Are they sent on courses regularly?	1	
	Are there specific criteria or formal rules to be qualified for training?	1	
	Are there specific promotion requirement protocols in place?	1	
	Are there career advancement opportunities?	1	
Plant class	Is the plant classified by DWAF?	1	
	Has it been done according to the new classification system?	1	
Working Conditions	Are the responsibilities of process controllers, supervisors and plant managers in line with their salary?		0
	What system is used for overtime management and payment?	1	
	What is the WSA policy on conflict management (internal and external)?	1	
	Is any medical assistance available for on the job injuries?	1	
	Can all workers participate in medical schemes?	1	
	Are the retirement/pension-aid benefits, the housing and travel allowance benefits available?	1	
	Are the leave benefits (vacation /study/ sick), and the bonus scheme available?	1	
	Are there any other incentives?	1	
	Are plant personnel satisfied with their working environment?	1	
	Are the relationships between supervisors and their subordinates good or poor?	1	
	Is there any performance indicators?	1	
Maximum possible score for <i>Human Resources</i>		27	
Total score attained for <i>Human Resources</i>		24	
Weight for <i>Human Resources</i>		0.2	
Total weighted score for <i>Human Resources</i>		0.178	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.5		
Criterion	Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT		

2D: Financial Systems			
Financial Systems Sharing in Place	Which financial systems are in place?	1	
	Are there sufficient funds for operation, maintenance and overtime?	1	
	Do the size of the plants (small versus large) influence the allocation of funds?	1	
	Does the WSA's budgeting system work in relation to emergency funds, scheduled upgrading/extensions, unscheduled rehabilitation/upgrading?	1	
Information Sharing in Place	Are there communication channels and transparency between the financial section and the water care section?	1	
	Are regular meetings held? Who attends / chairs these meetings?	1	
	Are decisions taken at consensus / majority?	1	
	Are reports freely available?	1	
Procurement System	Is the procurement system transparent?	1	
	Is the procurement system open to all?	1	
	Is the water sector involved in the adjudication of tenders?	1	
Maximum possible score for <i>Financial Systems</i>		11	
Total score attained for <i>Financial Systems</i>		11	
Weight for <i>Financial Systems</i>		0.1	
Total weighted score for <i>Financial Systems</i>		0.1	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.6			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2E: Communication Systems			
Internal	Are there sufficient internal communication channels in place, including the needs and shortcomings?	1	
	Are these communication channels effective?	1	
	Is the communication between supervisors and process controllers good or	1	

	poor?		
	Is there any interaction between the maintenance team and the rest of personnel in the water treatment plant?	1	
	Is the communication between management and lower level process controllers good or poor?	1	
External	Are there sufficient communication channels with other Municipalities and/or Departments?	1	
	Are there sufficient communication channels with consumers?	1	
	Are these external communication channels effective, good or poor?	1	
Maximum possible score for <i>Communication Systems</i>		8	
Total score attained for <i>Communication Systems</i>		8	
Weight for <i>Communication Systems</i>		0.2	
Total weighted score for <i>Communication Systems</i>		0.2	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.7			
Criterion		Yes =1	No =0
2. NON-TECHNICAL ASSESSMENT			
2F: Audit of safety, health and environmental quality			
Safety Matters	Are there water and safety management procedures for normal operation, incidents and emergency situations?	1	
	Is there any safety plan at water treatment plants including the safety of process controllers on duties?	1	
	Are there emergency plans in place for chlorine leaks?	1	
	Are there hazardous chemicals and ablution facilities, appropriate fire extinguishers location?	1	
	Are safety meetings held regularly and who attends such meetings?	1	
Health Aspects	Are there representatives for health and safety of consumers? If yes, are they effective?	1	
	Are there control measures that identify risks and ensure that health based-targets are met in terms of providing safe drinking water to all consumers?	1	
	Are there emergency measures in place for water quality health impact?	1	
m e n t a l	Are process controllers satisfied with their working environment?	1	

	Is the working environment appropriate for improving or accelerating the service delivery?	1	
	Is there any strategic plan to improve the quality of the working environment?	1	
Maximum possible score for SHEQ		11	
Total score attained for SHEQ		11	
Weight for SHEQ		0.15	
Total weighted score for SHEQ		0.15	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.8			
Criterion		Yes =1	No = 0
2. NON-TECHNICAL ASSESSMENT			
2G: Community involvement and awareness			
Community Involvement	Are there protocols involved communities in decision-making?		0
	Is there an effective reporting system for communities to assist in more rapid response to any water quality incident?	1	
	Is there a Consumer Service to which non-compliance can be reported?	1	
Community Awareness	Is there a mechanism system to receive and actively address community complaints in a timely fashion?	1	
	Are there procedures for promptly advising of any significant incidents within the drinking water supply including notification of the public health authority?	1	
	Is there any water quality information system available to consumers through annual reports and in the internet?	1	
Maximum possible score for Community Involvement		6	
Total score attained for Community Involvement		5	
Weight for Community Involvement		0.05	
Total weighted score for Community Involvement		0.042	

TABLE 12.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Dzingahe Package plant <u>97.0 %</u>	

Compliance Criterion	Weighted Score
2. NON-TECHNICAL ASSESSMENT	
2A: Management Issues	0.1
2B: Management Practices	0.2
2C: Human Resources	0.178
2D: Financial Systems	0.1
2E: Communication Systems	0.2
2F: Safety, Health and Environmental Quality	0.15
2G: Community Involvement and Awareness	0.042
TOTAL WEIGHTED SCORE	0.97

TABLE 12.10 NON-TECHNICAL (MANAGEMENT) COMPLIANCE RATING:	
Total Weighted Score	Rating Description
0 – 50	<i>Class 3 Compliance:</i> Total non-compliance; serious and immediate intervention required (TAC)
50 – 90	<i>Class 2 Compliance:</i> Serious challenges requiring attention and improvement
90 – 100	<i>Class 1 Compliance:</i> Acceptable compliance

Table S2. Ranking of the Problem Areas in Priority Order after the first assessment.

		1A. Design aspect	1D. Plant Monitoring Practices	1F. Risk Management Practices
1	Insignificant Health Consequence			
2	Minor Health Consequence			
3	Moderate Health Consequence	3	3	
4	Major Health Consequence			4
5	Catastrophic Health Consequence			