

**Table S1.** Non-technical compliance 2009 and 2011.

**MALAMULELE TREATMENT WATER PLANT**

19 August 2009

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

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

	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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>14</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.3</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for <i>Management Practices</i></b>		<b>3</b>	
<b>Total score attained for <i>Management Practices</i></b>		<b>3</b>	
<b>Weight for <i>Management Practices</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Management Practices</i></b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.4			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
<b>Personnel at the plant</b>	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	
<b>Qualifications of Personnel</b>	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	
<b>Training Needs</b>	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	
<b>Plant class</b>	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
<b>Working Conditions</b>	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	
	<b>Is any medical assistance available for on the job injuries?</b>	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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>22</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.163</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.5</b>			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	

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

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 1.6</b>			
Criterion	Yes =1	No = 0	
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

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

<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
<b>Safety Matters</b>	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	
<b>Health Aspects</b>	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	
<b>Environmental Quality</b>	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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

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

	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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>3</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.025</b>	

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

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

	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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL</b>	<b>1.0</b>

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.2			
Criterion	Yes =1	No = 0	
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2A: Management Issues</b>			
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	
<b>Maximum possible score for Management Issues</b>		<b>14</b>	
<b>Total score attained for Management Issues</b>		<b>14</b>	
<b>Weight for Management Issues</b>		<b>0.1</b>	
<b>Total weighted score for Management Issues</b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.3</b>		
<b>Criterion</b>	<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>		
<b>2B: Management Practices</b>		
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	
<b>Maximum possible score for Management Practices</b>		<b>3</b>	
<b>Total score attained for Management Practices</b>		<b>3</b>	
<b>Weight for Management Practices</b>		<b>0.2</b>	
<b>Total weighted score for Management Practices</b>		<b>0.2</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.4</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
<b>Personnel at the plant</b>	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	
<b>Qualifications of Personnel</b>	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	
<b>Training Needs</b>	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	
<b>Plant class</b>	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
<b>ng C on di</b>	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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>22</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.163</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.5</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	

<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.7</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
<b>Safety Matters</b>	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	
<b>Health Aspects</b>	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	
<b>Environmental Quality</b>	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
<b>Maximum possible score for <i>SHEQ</i></b>		<b>11</b>	
<b>Total score attained for <i>SHEQ</i></b>		<b>10</b>	
<b>Weight for <i>SHEQ</i></b>		<b>0.15</b>	
<b>Total weighted score for <i>SHEQ</i></b>		<b>0.136</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 2.8			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
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
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>5</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.042</b>	

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

2G: Community Involvement and Awareness	0.042
<b>TOTAL WEIGHTED SCORE</b>	<b>0.941</b>

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL</b>	<b>1.0</b>

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.2			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2A: Management Issues</b>			
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	
<b>Maximum possible score for Management Issues</b>		<b>14</b>	
<b>Total score attained for Management Issues</b>		<b>14</b>	
<b>Weight for Management Issues</b>		<b>0.1</b>	
<b>Total weighted score for Management Issues</b>		<b>0.1</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.3			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for Management Practices</b>		<b>3</b>	
<b>Total score attained for Management Practices</b>		<b>3</b>	
<b>Weight for Management Practices</b>		<b>0.2</b>	
<b>Total weighted score for Management Practices</b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.4			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
<b>Personnel at the plant</b>	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	
<b>Qualifications of Personnel</b>	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	
<b>Training Needs</b>	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	
<b>Plant class</b>	Is the plant classified by DWAF?		0
	Has it been done according to the new classification system?		0
<b>Working Conditions</b>	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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>21</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.156</b>	

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

<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>Maximum possible score for Communication Systems</b>		<b>8</b>	
<b>Total score attained for Communication Systems</b>		<b>8</b>	
<b>Weight for Communication Systems</b>		<b>0.2</b>	
<b>Total weighted score for Communication Systems</b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.7			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 3.8</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
<b>Community Involvement</b>	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	
<b>Community Awareness</b>	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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>5</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.042</b>	

<p><b>TABLE 3.9</b></p> <p><b>NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:</b></p> <p><b>Total Weighted Scoring for Mutshedzi package plant <u>94.7 %</u></b></p>
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Compliance Criterion	Weighted Score
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL WEIGHTED SCORE</b>	<b>0.947</b>

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2A: Management Issues</b>			
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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>14</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.3</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for <i>Management Practices</i></b>		<b>3</b>	
<b>Total score attained for <i>Management Practices</i></b>		<b>3</b>	
<b>Weight for <i>Management Practices</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Management Practices</i></b>		<b>0.2</b>	

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

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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>26</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>19</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.146</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.5</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	

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	
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.7			
Criterion	Yes =1	No = 0	
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
<b>Water Matters</b>	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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 4.8</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>4</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.033</b>	

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
<b>2A: Management Issues</b>	<b>0.1</b>
<b>2B: Management Practices</b>	<b>0.2</b>
<b>2C: Human Resources</b>	<b>0.146</b>
<b>2D: Financial Systems</b>	<b>0.1</b>
<b>2E: Communication Systems</b>	<b>0.2</b>
<b>2F: Safety, Health and Environmental Quality</b>	<b>0.15</b>
<b>2G: Community Involvement and Awareness</b>	<b>0.033</b>
<b>TOTAL WEIGHTED SCORE</b>	<b>0.929</b>

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

	Acceptable compliance
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**TSHEDZA PACKAGE PLANT**

**19 August 2009**

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

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

	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?		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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>13</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>			

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.3</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for <i>Management Practices</i></b>		<b>3</b>	

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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>21</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>			

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.5</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>m e n t c</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>			

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>			

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 5.7			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>			

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

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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>4</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>			

TABLE 5.9	
NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:	
Total Weighted Scoring for Tshedza Package plant <u>93.1%</u>	
Compliance Criterion	Weighted Score
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL WEIGHTED SCORE</b>	<b>0.931</b>

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL</b>	<b>1.0</b>

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.2		
Criterion	Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>		
<b>2A: Management Issues</b>		
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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>13</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>		<b>0.0929</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.3		
Criterion	Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>		
<b>2B: Management Practices</b>		
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	
<b>Maximum possible score for Management Practices</b>		<b>3</b>	
<b>Total score attained for Management Practices</b>		<b>3</b>	
<b>Weight for Management Practices</b>		<b>0.2</b>	
<b>Total weighted score for Management Practices</b>		<b>0.2</b>	

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

	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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>22</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.163</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.5			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
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?		
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>10</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.091</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.7</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
<b>Safety Matters</b>	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	
<b>Health Aspects</b>	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	
<b>Environmental Quality</b>	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	
<b>Maximum possible score for <i>SHEQ</i></b>		<b>11</b>	
<b>Total score attained for <i>SHEQ</i></b>		<b>9</b>	
<b>Weight for <i>SHEQ</i></b>		<b>0.15</b>	

Total weighted score for SHEQ	0.123
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NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 6.8			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
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	
<b>Maximum possible score for Community Involvement</b>		<b>6</b>	
<b>Total score attained for Community Involvement</b>		<b>3</b>	
<b>Weight for Community Involvement</b>		<b>0.05</b>	
<b>Total weighted score for Community Involvement</b>		<b>0.25</b>	

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

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

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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	
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2A: Management Issues</b>			
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	
<b>Maximum possible score for Management Issues</b>		<b>14</b>	
<b>Total score attained for Management Issues</b>		<b>14</b>	
<b>Weight for Management Issues</b>		<b>0.1</b>	

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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for <i>Management Practices</i></b>		<b>3</b>	
<b>Total score attained for <i>Management Practices</i></b>		<b>3</b>	
<b>Weight for <i>Management Practices</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Management Practices</i></b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.4			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>24</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.178</b>	

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

<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No =0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.7			
Criterion		Yes =1	No =0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
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	
mental	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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 7.8</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No =0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
<b>Community Involvement</b>	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	
<b>Community Awareness</b>	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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>5</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.042</b>	

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

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

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

**VONDO TREATMENT PLANT**

13 May 2011

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

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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2A: Management Issues</b>			
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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>14</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.3</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No =0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for <i>Management Practices</i></b>		<b>3</b>	
<b>Total score attained for <i>Management Practices</i></b>		<b>3</b>	
<b>Weight for <i>Management Practices</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Management Practices</i></b>		<b>0.2</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.4</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No =0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
<b>Personnel at the plant</b>	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	
<b>Maximum possible score for Human Resources</b>		<b>27</b>	
<b>Total score attained for Human Resources</b>		<b>25</b>	
<b>Weight for Human Resources</b>		<b>0.2</b>	
<b>Total weighted score for Human Resources</b>		<b>0.185</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.5			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	
NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.6			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			

<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.7</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No =0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
<b>Safety Matters</b>	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	
<b>Health Aspects</b>	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
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>10</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.136</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 8.8</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No =0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>6</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.05</b>	

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
<b>TOTAL WEIGHTED SCORE</b>	<b>97.1</b>

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

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

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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>14</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>		<b>0.1</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.3			
Criterion		Yes =1	No =0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for <i>Management Practices</i></b>		<b>3</b>	
<b>Total score attained for <i>Management Practices</i></b>		<b>3</b>	
<b>Weight for <i>Management Practices</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Management Practices</i></b>		<b>0.2</b>	

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

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

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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.7			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
<b>Safety Matters</b>	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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 9.8</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL WEIGHTED SCORE</b>	<b>97.7</b>

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

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

	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	
<b>Maximum possible score for Management Issues</b>		<b>14</b>	
<b>Total score attained for Management Issues</b>		<b>14</b>	
<b>Weight for Management Issues</b>		<b>0.1</b>	
<b>Total weighted score for Management Issues</b>		<b>0.1</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.3			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for Management Practices</b>		<b>3</b>	
<b>Total score attained for Management Practices</b>		<b>3</b>	
<b>Weight for Management Practices</b>		<b>0.2</b>	

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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>25</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.185</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.5</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>External</b>	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	
<b>Maximum possible score for <i>Communication Systems</i></b>		<b>8</b>	
<b>Total score attained for <i>Communication Systems</i></b>		<b>8</b>	
<b>Weight for <i>Communication Systems</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Communication Systems</i></b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 10.7			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

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

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

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

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL</b>	<b>1.0</b>

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.2		
Criterion	Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>		
<b>2A: Management Issues</b>		
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	
<b>Maximum possible score for <i>Management Issues</i></b>		<b>14</b>	
<b>Total score attained for <i>Management Issues</i></b>		<b>13</b>	
<b>Weight for <i>Management Issues</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Management Issues</i></b>		<b>0.093</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.3		
Criterion	Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>		
<b>2B: Management Practices</b>		
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	
<b>Maximum possible score for Management Practices</b>		<b>3</b>	
<b>Total score attained for Management Practices</b>		<b>3</b>	
<b>Weight for Management Practices</b>		<b>0.2</b>	
<b>Total weighted score for Management Practices</b>		<b>0.2</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.4</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
<b>Personnel at the plant</b>	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	
<b>Qualifications of Personnel</b>	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	
<b>Training Needs</b>	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	
<b>Plant Classification</b>	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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>25</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.185</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.5			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.5			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2D: Financial Systems</b>			
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	

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

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

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
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 11.8			
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Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>4</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.033</b>	

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

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
<b>2. NON-TECHNICAL ASSESSMENT</b>	
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
<b>TOTAL</b>	<b>1.0</b>

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.2
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Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2A: Management Issues</b>			
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	
<b>Maximum possible score for Management Issues</b>		<b>14</b>	
<b>Total score attained for Management Issues</b>		<b>14</b>	
<b>Weight for Management Issues</b>		<b>0.1</b>	
<b>Total weighted score for Management Issues</b>		<b>0.1</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.3			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2B: Management Practices</b>			
	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	
<b>Maximum possible score for Management Practices</b>		<b>3</b>	
<b>Total score attained for Management Practices</b>		<b>3</b>	
<b>Weight for Management Practices</b>		<b>0.2</b>	
<b>Total weighted score for Management Practices</b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.4			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2C: Human Resources</b>			
<b>Personnel at the plant</b>	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	
<b>Qualifications of Personnel</b>	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	
<b>Training Needs</b>	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	
<b>Plant class</b>	Is the plant classified by DWAF?	1	
	Has it been done according to the new classification system?	1	
<b>Working Conditions</b>	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	
<b>Maximum possible score for <i>Human Resources</i></b>		<b>27</b>	
<b>Total score attained for <i>Human Resources</i></b>		<b>24</b>	
<b>Weight for <i>Human Resources</i></b>		<b>0.2</b>	
<b>Total weighted score for <i>Human Resources</i></b>		<b>0.178</b>	

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

<b>2D: Financial Systems</b>			
<b>Financial Systems Sharing in Place</b>	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	
<b>Information Sharing in Place</b>	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	
<b>Procurement System</b>	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	
<b>Maximum possible score for <i>Financial Systems</i></b>		<b>11</b>	
<b>Total score attained for <i>Financial Systems</i></b>		<b>11</b>	
<b>Weight for <i>Financial Systems</i></b>		<b>0.1</b>	
<b>Total weighted score for <i>Financial Systems</i></b>		<b>0.1</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.6</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2E: Communication Systems</b>			
<b>Internal</b>	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	
<b>Maximum possible score for Communication Systems</b>		<b>8</b>	
<b>Total score attained for Communication Systems</b>		<b>8</b>	
<b>Weight for Communication Systems</b>		<b>0.2</b>	
<b>Total weighted score for Communication Systems</b>		<b>0.2</b>	

NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.7			
Criterion		Yes =1	No = 0
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2F: Audit of safety, health and environmental quality</b>			
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 en tal	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	
<b>Maximum possible score for SHEQ</b>		<b>11</b>	
<b>Total score attained for SHEQ</b>		<b>11</b>	
<b>Weight for SHEQ</b>		<b>0.15</b>	
<b>Total weighted score for SHEQ</b>		<b>0.15</b>	

<b>NON-TECHNICAL COMPLIANCE (MANAGEMENT) SCORING: Table 12.8</b>			
<b>Criterion</b>		<b>Yes =1</b>	<b>No = 0</b>
<b>2. NON-TECHNICAL ASSESSMENT</b>			
<b>2G: Community involvement and awareness</b>			
<b>Community Involvement</b>	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	
<b>Community Awareness</b>	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	
<b>Maximum possible score for <i>Community Involvement</i></b>		<b>6</b>	
<b>Total score attained for <i>Community Involvement</i></b>		<b>5</b>	
<b>Weight for <i>Community Involvement</i></b>		<b>0.05</b>	
<b>Total weighted score for <i>Community Involvement</i></b>		<b>0.042</b>	

<p><b>TABLE 12.9</b></p> <p><b>NON-TECHNICAL (MANAGEMENT) COMPLIANCE SCORING:</b></p> <p><b>Total Weighted Scoring for Dzingahe Package plant <u>97.0 %</u></b></p>
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Compliance Criterion	Weighted Score
<b>2. NON-TECHNICAL ASSESSMENT</b>	
<b>2A: Management Issues</b>	<b>0.1</b>
<b>2B: Management Practices</b>	<b>0.2</b>
<b>2C: Human Resources</b>	<b>0.178</b>
<b>2D: Financial Systems</b>	<b>0.1</b>
<b>2E: Communication Systems</b>	<b>0.2</b>
<b>2F: Safety, Health and Environmental Quality</b>	<b>0.15</b>
<b>2G: Community Involvement and Awareness</b>	<b>0.042</b>
<b>TOTAL WEIGHTED SCORE</b>	<b>0.97</b>

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

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

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