

RTCR

HOW TO CONDUCT A LEVEL 1 ASSESSMENT TO COMPLY WITH THE RTCR

WHAT IS A LEVEL 1 ASSESSMENT?  
WHY DO I NEED TO DO ONE?

- LET'S REVIEW THE REVISED TOTAL COLIFORM RULE

REVISED TOTAL COLIFORM RULE


CNMI BECQ IMPLEMENTATION

ADOPTION OF NEW REGULATIONS

- OCTOBER 28, 2015 – PROPOSED
- DECEMBER 28, 2015 – FINAL
- REFERENCES JULY 1, 2014 VERSION OF 40 CFR 141
- ADDS NEW SUBPART Y – REVISED TOTAL COLIFORM RULE

Commonwealth of the Northern Mariana Islands  
OFFICE OF THE GOVERNOR  
Bureau of Environmental and Coastal Quality

Drinking Water Regulations



January 2016

EFFECTIVE DATE

APRIL

1<sup>st</sup>

2016

SAMPLE SITING PLANS

FEDERAL REQUIREMENT

- 141.853(A)(1) SYSTEMS MUST DEVELOP A WRITTEN SAMPLE SITING PLAN THAT IDENTIFIES:
  - SAMPLING SITES (ROUTINE AND REPEAT SITES), AND SOURCE WATER IF REQUIRED BY GWR
  - COLLECTION SCHEDULE
  - NO LATER THAN MARCH 31, 2016...
- PLANS ARE SUBJECT TO STATE REVIEW AND REVISION

CNMI PUBLIC WATER SYSTEMS

- ALL PWS IN CNMI ALREADY HAVE SAMPLE SITING PLANS
- KEEP THE SAMPLE SITING PLANS YOU HAVE
- THEY WILL BE REVIEWED DURING THE NEXT SANITARY SURVEY

CAPT Derek Chambers, USPHS

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## TREATMENT TECHNIQUE TRIGGERS

## CNMI DIRECTIONS

- ALL SYSTEMS MUST MONITOR:

# MONTHLY

- NO REDUCED MONITORING (AT THIS TIME)

## TREATMENT TECHNIQUE TRIGGERS

- LEVEL 1

> 5% TC+

## TREATMENT TECHNIQUE TRIGGERS

- LEVEL 1

> 5% TC+





## TREATMENT TECHNIQUE TRIGGERS

- LEVEL 1



## TREATMENT TECHNIQUE TRIGGERS

- LEVEL 2



## ASSESSMENTS

- CONDUCTED USING A WRITTEN FORM
- FORM MUST DESCRIBE
  - SANITARY DEFECTS DETECTED
  - CORRECTIVE ACTIONS COMPLETED
  - PROPOSED TIMETABLE FOR CORRECTIVE ACTIONS NOT ALREADY COMPLETED
- MAY NOTE THAT NO DEFECTS WERE DETECTED
- MUST BE SUBMITTED TO STATE WITHIN 30 DAYS AFTER SYSTEM LEARNS IT EXCEEDED TRIGGER

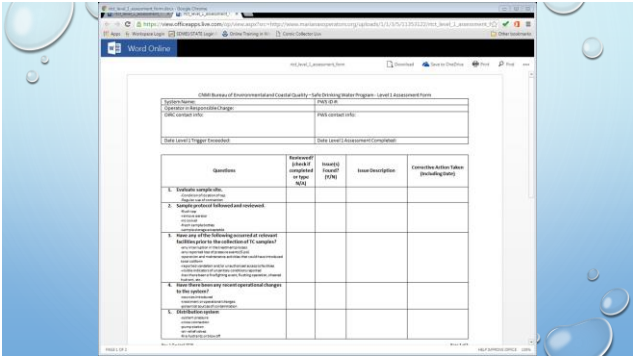
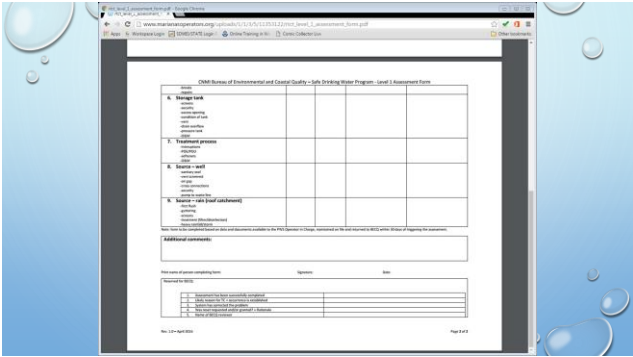
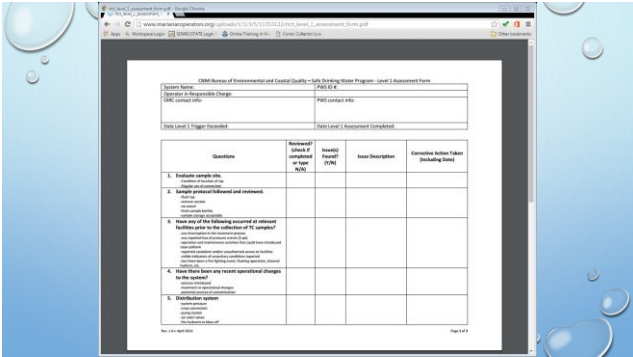
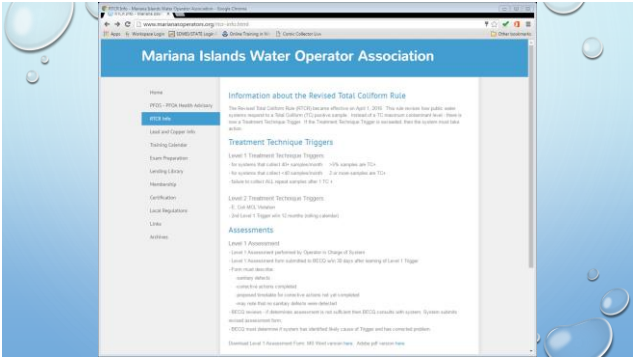
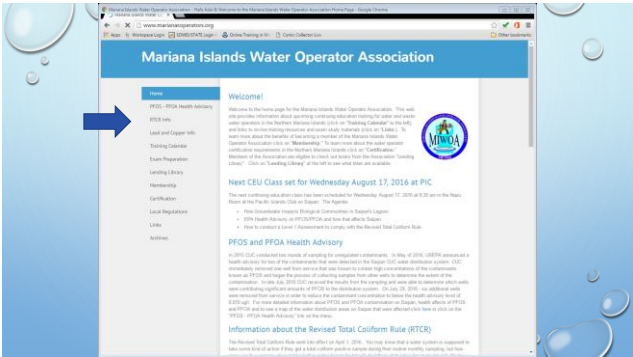
Same as Sanitary Survey

- BECQ PERSONNEL TRAINED TO PERFORM SANITARY SURVEYS
- BEH PERSONNEL TRAINED TO PERFORM SANITARY SURVEYS
- PE TRAINED TO PERFORM SANITARY SURVEYS AND APPROVED BY BECQ
- REHS TRAINED TO PERFORM SANITARY SURVEYS AND APPROVED BY BECQ
- OTHER PERSONNEL TRAINED TO PERFORM SANITARY SURVEYS AND APPROVED BY BECQ

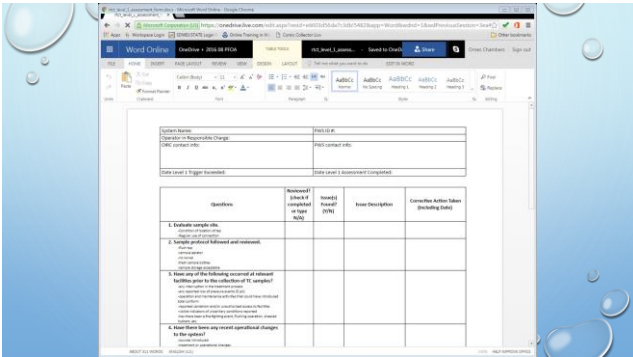


WHERE CAN A PWS GET A COPY OF THE LEVEL 1 ASSESSMENT FORM?

www.MarianasOperators.org







THE FORM IS OFFICIAL DOCUMENTATION

- FILL IN TOP PORTION
  - SYSTEM NAME & PWS ID #
  - PWS CONTACT INFO
  - OPERATOR IN RESPONSIBLE CHARGE & CONTACT INFO
  - DATE THE LEVEL 1 TRIGGER WAS EXCEEDED
  - DATE THE LEVEL 1 ASSESSMENT WAS COMPLETED (W/ IN 30 DAYS)

CNMI Bureau of Environmental and Coastal Quality – Safe Drinking Water Program – Level 1 Assessment Form	
System Name:	PWS ID #:
Operator in Responsible Charge:	PWS contact info:
CWR contact info:	
Date Level 1 Trigger Exceeded:	Date Level 1 Assessment Completed:

COVER ALL ASSESSMENT AREAS

1. SAMPLE SITE
2. SAMPLE PROTOCOL
3. DISTRIBUTION OR TREATMENT INTERRUPTIONS
4. OPERATIONAL CHANGES
5. DISTRIBUTION FACILITIES
6. STORAGE TANKS
7. TREATMENT PROCESSES
8. SOURCES – WELL/RAINWATER

Two overlapping images of the Level 1 Assessment Form, showing different sections of the document. The top image shows the top portion with system information and trigger dates. The bottom image shows the table with questions and assessment columns.

COMPLETE ALL COLUMNS

- REVIEWED? – (CHECK IF COMPLETED OR TYPE N/A)
- ISSUE(S) FOUND? (Y/N)
- ISSUE DESCRIPTION – IF AN ISSUE WAS FOUND, THEN DESCRIBE IT
- CORRECTIVE ACTION TAKE (INCLUDING DATE)
  - OR SCHEDULED DATE WHEN CORRECTIVE ACTION IS TO BE TAKEN AFTER CONSULTATION WITH BECQ

A close-up of the assessment table columns: "Reviewed? (check if completed or type N/A)", "Issue Found? (Y/N)", "Issue Description", and "Corrective Action Taken (including Date)". It shows several rows of the table.

FINALLY

- SIGN THE BOTTOM
- SUBMIT COMPLETED FORM W/ IN 30 DAYS OF TRIGGER EVENT

The bottom section of the Level 1 Assessment Form. It includes a field for "Additional comments:" and a section for "Final status of system remaining force" with columns for "Signature" and "Date". Below this is a section for "Reviewed by BECQ" with a table for tracking review status.

CORRECTIVE ACTIONS

- SYSTEMS MUST CORRECT SANITARY DEFECTS IDENTIFIED IN ASSESSMENTS
- IF NOT COMPLETED BEFORE FORM SUBMITTED TO STATE, MUST FOLLOW TIMETABLE APPROVED BY STATE DURING A CONSULTATION

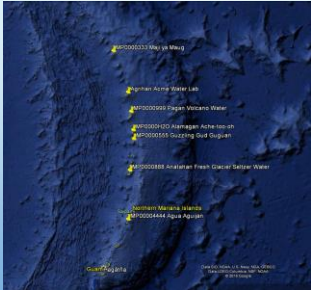




VIOLATIONS

- E. COLI MCL – EC+ FOLLOWING A TC+
- TREATMENT TECHNIQUE – EXCEEDS TRIGGER BUT FAILS TO CONDUCT ASSESSMENT
- MONITORING VIOLATION – FAILURE TO COLLECT REQUIRED SAMPLES
- REPORTING VIOLATION – FAILURE TO SUBMIT A MONITORING REPORT OR ASSESSMENT

PWS EXAMPLES



EXAMPLE 1 - PAGAN

- PWS ID # MP0000999
- PAGAN VOLCANO WATER – BOTTLED WATER COMPANY
- SERVE ALL 25 PEOPLE ON PAGAN
- HAVE A WELL
- CHLORINATE – RESIDUAL = 0.5 MG/L
- REQUIRED TO TAKE 1 SAMPLE A MONTH
  - SAMPLES ANALYZED AT AGRIHAN ACME WATER LAB

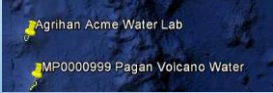


EXAMPLE 1 CONTINUED...

- TAKE SAMPLE ON TUESDAY AUGUST 9, 2016
  - SEND TO AGRIHAN VIA ALBATROSS
- GET RESULT THE FOLLOWING DAY WEDNESDAY AUGUST 10, 2016 – **TC+**



EXAMPLE 1 CONTINUED...



- HAS AN RTCR TRIGGER BEEN EXCEEDED?
  - **NOT YET**
- WHAT DOES PAGAN DO NEXT?
  - 3 REPEATS REQUIRED
  - THEY ONLY HAVE ONE TAP (NO UPSTREAM/DOWNSTREAM)
  - FILL THREE 100 ML BOTTLES, AT 1 HOUR INTERVALS
  - SEND TO AGRIHAN ON WEDNESDAY AUGUST 10, 2016

EXAMPLE 1 CONTINUED...

- WATER SOURCE IS A WELL (GROUNDWATER)
- DO THEY DO SOURCE WATER MONITORING TO COMPLY WITH GROUNDWATER RULE?
  - **NO** – THEY ARE CHLORINATING, DECLARED 4 LOG VIRUS REMOVAL BECAUSE RESIDUAL = 0.5 MG/L
- RECORD CHLORINE RESIDUAL DAILY (COMPLIANCE MONITORING)





EXAMPLE 1 CONTINUED...

- "40 CFR 141.858(a)(3) Repeat monitoring...  
The system must continue to collect additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples or the system determines that a coliform treatment technique trigger ... has been exceeded as a result of a repeat sample being TC+ and notifies [BECQ]."
- AGRIHAN SENDS RESULTS THU AUG 11
    - 1 OF THE THREE REPEATS = TC+
  - HAS AN RTCR TRIGGER BEEN EXCEEDED?
    - YES – 1 ROUTINE + 1 REPEAT
  - WHAT DOES PAGAN DO?
    - PERFORM LEVEL 1 ASSESSMENT
      - DUE ON 9/11/16
    - WHAT ABOUT MORE REPEATS?
      - NOT REQUIRED – TRIGGER EXCEEDED

EXAMPLE 1 – LEVEL 1 ASSESSMENT

- SYSTEM NAME: Pagan Volcano Water
- PWS CONTACT INFO: Box 100, Pagan, MP 670 299 9999
- OPERATOR IN RESPONSIBLE CHARGE: Pedro Pagan
- DATE LEVEL 1 TRIGGER EXCEEDED: 8/11/2016
- DATE LEVEL 1 ASSESSMENT COMPLETED: 8/12/2016

PWS Name (if Governmental and Local Utility, List Jurisdictional Agency, and Contamination)			
PWS ID Number (if any)			
Date of Level 1 Trigger Exceeded			
Date of Level 1 Assessment Completed			
Location	Sample Date	Sample Time	Sample Location
1. Tap Location (e.g., street name, house number, etc.)			
2. Sample Location (e.g., tap, aerator, etc.)			
3. Sample Location (e.g., tap, aerator, etc.)			
4. Sample Location (e.g., tap, aerator, etc.)			
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18. Sample Location (e.g., tap, aerator, etc.)			
19. Sample Location (e.g., tap, aerator, etc.)			
20. Sample Location (e.g., tap, aerator, etc.)			

EXAMPLE 1 – EVALUATE SAMPLE SITE



- CONDITION AND LOCATION OF TAP
- REGULAR USE OF CONNECTION
  - Check
  - Issue found: Y
  - Description: taps not appropriate
  - Corrective action: removed hoses 8/12/16

EXAMPLE 1 – SAMPLE PROTOCOL

- SAMPLE PROTOCOL FOLLOWED AND REVIEWED
    - FLUSH TAP
    - REMOVE AERATOR
    - NO SWIVEL
    - FRESH SAMPLE BOTTLES
    - SAMPLE STORAGE ACCEPTABLE
- CHECK
  - ISSUE FOUND: Y
  - ISSUE DESCRIPTION: ALBATROSS NOT VERY CLEAN
  - CORRECTIVE ACTION GAVE ALBATROSS A BATH 8/12/16

EXAMPLE 1 – INTERRUPTION OF SERVICE/TREATMENT

- HAVE ANY OF THE FOLLOWING OCCURRED AT RELEVANT FACILITIES PRIOR TO COLLECTION OF TC SAMPLES?
    - INTERRUPTION OF TREATMENT PROCESS
    - LOSS OF PRESSURE
    - O&M ACTIVITIES THAT COULD HAVE TC+
    - VALDALISM
    - UNSANITARY CONDITIONS
    - FIRE FIGHTING, FLUSHING, BROKEN PIPE
- CHECK
  - ISSUE FOUND: N
  - ISSUE DESCRIPTION: NONE
  - CORRECTION ACTION TAKEN: NONE

EXAMPLE 1 – OPERATIONAL CHANGES

- HAVE THERE BEEN ANY RECENT OPERATIONAL CHANGES TO THE SYSTEM
    - SOURCES INTRODUCED
    - TREATMENT OR OPERATIONAL CHANGES
    - POTENTIAL SOURCES OF CONTAMINATION
- CHECK
  - ISSUE FOUND: N
  - ISSUE DESCRIPTION: NONE
  - CORRECTIVE ACTION: NONE



EXAMPLE 1 – DISTRIBUTION SYSTEM

- DISTRIBUTION SYSTEM:
  - SYSTEM PRESSURE
  - CROSS CONNECTION
  - PUMP STATION
  - AIR RELIEF VALVE
  - FIRE HYDRANTS OR BLOW OFFS
  - BREAKS
  - REPAIRS
- CHECK
  - ISSUE FOUND: Y
  - ISSUE DESCRIPTION: BROKEN WATER PIPE
  - CORRECTIVE ACTION: REPAIRED PIPE 8/13/16

EXAMPLE 1 – STORAGE TANK



- STORAGE TANKS
  - SCREENS
  - SECURITY
  - ACCESS OPENING
  - CONDITION OF TANK
  - VENT
  - DRAIN OVERFLOW
  - PRESSURE TANK
  - O&M
- CHECK
  - ISSUE FOUND: N
  - ISSUE DESCRIPTION: NONE
  - CORRECTIVE ACTION: NONE

EXAMPLE 1 – TREATMENT PROCESS

- TREATMENT PROCESS
  - INTERRUPTIONS
  - POE/POU
  - SOFTENERS
  - O&M
- CHECK
  - ISSUE FOUND: Y
  - ISSUE DESCRIPTION: MIXING TANK USED AS STORAGE SHELF
  - CORRECTIVE ACTION: CLEANED UP MIXING TANK AREA 8/12/16



EXAMPLE 1 - WELL

- SOURCE – WELL
  - SANITARY SEAL
  - VENT SCREENED
  - AIR GAP
  - CROSS CONNECTION
  - SECURITY
  - PUMP TO WASTE LINE
- CHECK
  - ISSUE FOUND: Y
  - ISSUE DESCRIPTION: ELECTRICAL CABLE NOT SEALED, NO SCREENED VENT
  - CORRECTIVE ACTION: IMPROVED SANITARY SEAL AND INSTALLED SCREENED VENT 8/15/16



EXAMPLE 1 - COMPLETE

- COMPLETE THE FORM
- DOCUMENT ACTIONS TAKEN AND DATE
- SIGN FORM
- SUBMIT TO BECQ
- LEVEL 1 ASSESSMENT COMPLETE

EXAMPLE 2 - ANATAHAN



- MP0000888
- ANATAHAN FRESH GLACIER SELTZER WATER
- SURFACE WATER: REVERSE/OSMOSIS
- COLLECT 1 SAMPLE A MONTH TUE AUG 6
- RESULT WED AUG 7 TC+
- HAS TRIGGER BEEN EXCEEDED?
- DO THEY COLLECT REPEATS?

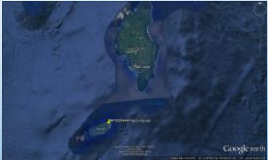


EXAMPLE 2 - ANATAHAN



- NO TRIGGER YET
- YES COLLECT 3 REPEATS
  - REPEATS COME BACK TC-
- WHAT ABOUT SOURCE WATER MONITORING FOR GROUNDWATER RULE?
  - NO, USING SURFACE WATER

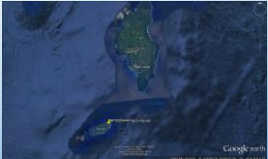
EXAMPLE 3 - AGUIJAN



- MP0000444 AGUA AGUIJAN
- GROUNDWATER
- CHLORINATE – RESIDUAL = 0.2 MG/L
- REQUIRED TO SAMPLE 5 SITES A MONTH
- COLLECT SAMPLES ON TUESDAY AUG 6
- WED AUG 7 RESULTS – 3 TC+
- HAS TRIGGER BEEN EXCEEDED?
- DO THEY HAVE TO COLLECT REPEATS?

EXAMPLE 3 CONTINUED...

- YES TO BOTH
- 40 CFR 141.858(a)(3) ... If a trigger is exceeded as a result of a routine sample being TC+, systems are required to conduct only one round of repeat monitoring for each TC + routine sample".
- Declared 4-log virus removal and are doing daily chlorine residual monitoring and recording results – no source water monitoring



RTCR SUMMARY

- WHEN THERE IS A CONFIRMED TC+
- PWS HAS TO ASSESS SYSTEM
- TAKE ACTION
- DOCUMENT ACTION

