

Implementing the TNI Standard

April 20, 2021
Virtual Event



Pathway Towards Improved Data Quality and Performance:
Strategies, Challenges, and Lessons Learned Implementing The TNI Standard

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Presentation Outline

- ▶ City of Escondido Water Quality Laboratory
- ▶ Objectives of Presentation
 - Organizational/Departmental Change
 - Strategy for Change
 - Implementing the TNI Standard
- ▶ Conclusion

City of Escondido Water Quality Laboratory



The Mission of the HARRF Laboratory is:

The HARRF Laboratory serves the residents of Escondido and surrounding communities by providing reliable, accurate, defensible data which acts to ensure safe drinking water, protect the environment, and safeguard public health.

We accomplish our mission by working cooperatively and safely, communicating effectively, and operating with integrity.



The City of Escondido Water Quality Laboratory

“We keep our drinking water safe and our ocean clean.”



Organizational or Departmental Change

- Challenges with change implementation



Strategy for Organizational Change



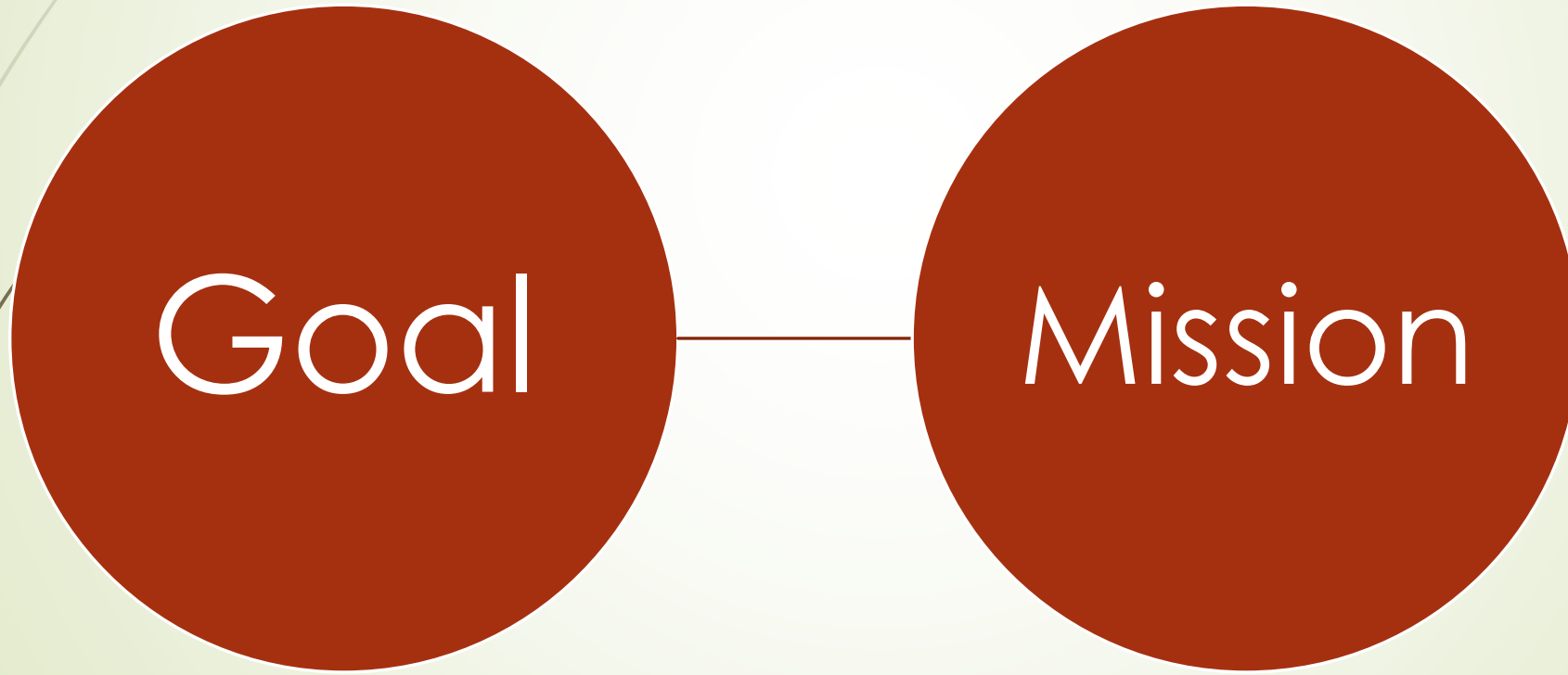
➤ Leaders Behaviors

☐ Directive behaviors

- ☐ Setting Goals
- ☐ Supportive Behaviors
- ☐ Participative
- ☐ Achievement-oriented Behaviors

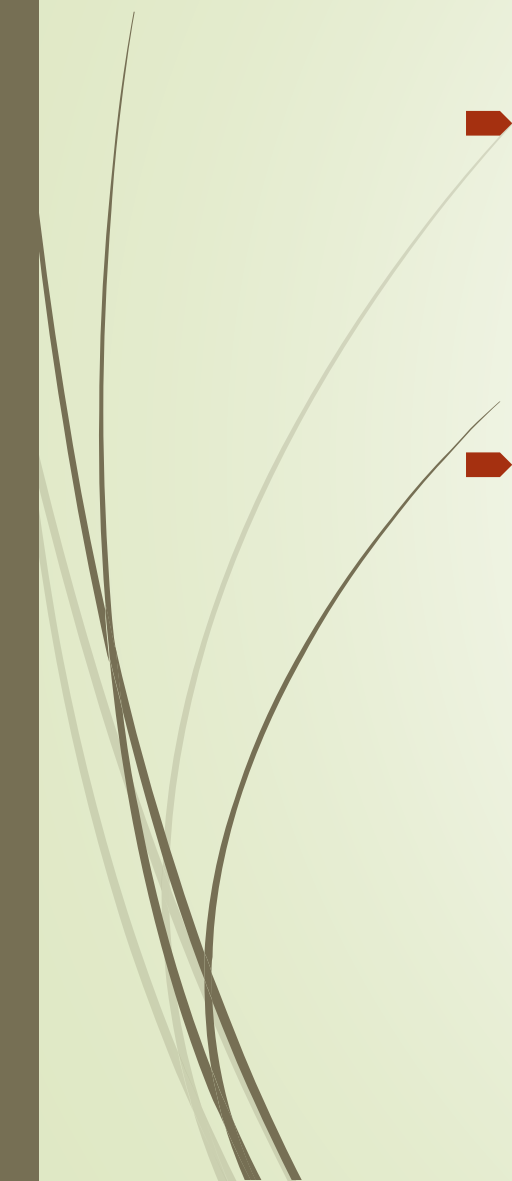
Strategy for Organizational Change

- Defining and Communicating the Goal





Implementing the TNI Standard

- Involves Leadership
 - ❑ Leadership a process that influences group members to work together toward common goal via positive motivation. (Malik, 2012)
 - Three part process
 - ❑ Communicating the goals
 - ❑ Overcoming the obstacles
 - ❑ Productivity Obtaining the goals
- 



Implementing the TNI Standard

- ▶ Defining and Communicating the Goal
 - Meeting with Key Staff
 - Supervisors and Associate Chemists
 - Presentation overview of the TNI Standard to Lab Staff
 - Background of TNI Standard
 - Modules of TNI Standard Volume 1
 - Module 2: Quality Systems General Requirements
 - Module 4: Quality Systems for Chemical Testing
 - Module 5: Quality Systems for Microbiological Testing
 - Misc. Points From TNI

Implementing the TNI Standard

- Defining and Communicating the Goal

Goal

Improved management system for Quality, Administrative and Technical Operations

Mission

Providing reliable, accurate, defensible data which acts to ensure safe drinking water, protect the environment, and safeguard public health

Implementing the TNI Standard

- Documents
 - ❑ Updated QA-Manual using TNI Template
 - ❑ Updating SOPs to incorporating the 23 elements or topics as mentioned in TNI V1M2 § 4.2.8.5 (f)

- Documenting for Traceability

- Documentation for Capability

Implementing the TNI Standard

➤ Quality Manual and SOPs

- ❑ Not an new requirement for certified labs
 - ❑ Mentioned in Standard Methods SM1020
 - ❑ California Code of Regulations: 22 CCR § 64815, QA Program Manual
 - ❑ 40 CFR 136.7 Quality assurance and quality control


- ❑ TNI Standard Rev 2.1 V1M2 § 4.2.8.3; 4.2.8.4 ; and 4.2.8.5 list the requirements needed for the QA Manual and SOPs.

Implementing the TNI Standard

- Demonstration of Capability (DOC)
 - ❑ TNI Standard 2.1 V1M4 § 1.6 for Chemical Testing and V1M5 § 1.6 for Microbiological Testing
 - ❑ Demonstration of Capability language begin with 20th edition of Standard Methods Section 1020B, prior to this the language used “Certification of Operator Competence”
 - ❑ In 2018 the City of Escondido Water Quality Laboratory begun documenting analysts demonstration of capabilities.

Demonstration of Capability Forms

Lab Name: City of Escondido Water Quality Laboratory
CA ELAP Lab ID: 1625

 **Demonstration of Capability (DOC) Form for Chemistry**
Do not use this form for Microbiology Testing DOCs. This form is intended as guidance only. For specific requirements, please refer to 2009 TNI Standard, Vol. 1, Module 4

Reference Method (with revision number and effective date)	
SOP Number (with revision number and effective date)	
DOC Type	<input type="checkbox"/> Initial <input type="checkbox"/> Ongoing
Reason(s) for this DOC	<input type="checkbox"/> New Method <input type="checkbox"/> New Instrument <input type="checkbox"/> Change to Procedure <input type="checkbox"/> New Analyst <input type="checkbox"/> New Analyte Added to SOP <input type="checkbox"/> Annual Demonstration (Ongoing)
DOC Data Source (What procedure did you use to perform this study?)	<input type="checkbox"/> Proficiency Testing Study (unknown to lab and analyst) Study ID: <input type="checkbox"/> Actual Sample (e.g. effluent; sample with known, typical conc. range) <input type="checkbox"/> QC Sample (e.g. Lab Control Sample, Lab Fortified Blank, CCV) Note: The QC may be analyzed concurrently or over a series of days. <input type="checkbox"/> Monitor Trends (e.g. review of control charts)
Target Analyte(s)	
Matrix	
Instrument Name (with ID #, Model #, and Serial #)	
Prep Technique	
Prep Analyst Name(s) (print)	
Reported Units (values must be recorded in same units)	

Summary Chart (Only applicable to DOCs using 'Actual Samples' or 'QC Samples' for the data source. For all methods which requires a blank, attach a copy of the raw data to this form. Recoveries must meet the criteria in your Quality Manual, as detailed here.)

*Acceptable Limits: _____ to _____ Acceptable Standard Deviation or % RSD: _____

	Analysis Date	Unique Lab Sample ID	True Value (if known)	Recovered Value	% Recovery	Pass/Fail*
1)						
2)						
3)						
4)						

Mean % Recovery _____%, Std Deviation of Recovered Values _____, Relative Std Deviation _____%

PASS FAIL

Analyst Name (print) _____ Analyst Signature _____ Approval Date _____

Reviewer/Manager Name (print) _____ Reviewer/Manager Signature _____ Approval Date _____

Edited by KB, 2018 S:\PublicWorks\Utilities\HARRF LAB\FORMS\IDOC\ELAPformdochem.doc Effective Date:04/02/2018

Name: Escondido Water Quality Laboratory
CA Lab ID: 1625



Demonstration of Capability (DOC) Form for Microbiology (Bacteriology) Testing
Do not use this form for Chemistry Testing DOCs

Analyst Name (print):	
Analyst Signature:	
DOC Type:	<input type="checkbox"/> Initial Demonstration ^I <input type="checkbox"/> Continuing Demonstration ^C
Date of DOC:	
DOC Data Source:	<input type="checkbox"/> PT ^C <input type="checkbox"/> Control Organism ^{I,C} <input type="checkbox"/> Data Comparison ^C
Analytical Method(s):	
Target Organisms:	<input type="checkbox"/> Total Coliform <input type="checkbox"/> E. coli <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> Other:
Reported Units:	

All values must be recorded in the same units (present/absent or CFU).

Replicate No.	True Value (or trained analyst reported value)	Analyst Reported Value	Pass/Fail
1)			
2)			
3)			
4)			

PASS FAIL

A copy of the raw data used to demonstrate capability must be attached to this form.

Trainer Approval (print name):	
Trainer Signature:	
Approval Date:	
Management Approval (print name):	
Management Signature:	
Approval Date:	

November 2017 NB S:\PublicWorks\Utilities\HARRF LAB\FORMS\DemonstrationOfCapabilityMicrobiology.doc

Implementing the TNI Standard

- ▶ LIMS provides unique sample ID#, the laboratory has been using LIMS since 2006 per TNI V1M2 § 5.8
- ▶ Modified procedures for receiving standards, reagents, reference materials and media have unique ID# per TNI V1M2 § 5.6.4.2.
- ▶ April 2018 Gap Analysis, most areas not TNI 2016 V1M2 compliant pertained to the QM.
- ▶ Lab QA Officer completed training on conducting Internal Audits.

Conclusion

- Acknowledging Laboratory Culture
- Utilize Leadership Skills
 - Communicate Goals
 - Pleasant Work Environment
- TNI Tool for Obtaining and Sustaining Goals



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