



Maynilad

**MAYNILAD NRW MANAGEMENT TRAINING
& CERTIFICATION PROGRAM
(MNMTCP)**

Maynilad's NRW Training Concept

1. Develop a comprehensive NRW training and certification program based on topic modules
2. Create ladder of courses for staff positions
3. Administer employee certification program through HR
4. Training Module course components:
 - *Include mandatory reading lists in courses*
 - *Require exams and certify every course*
 - *Incorporate field training*
 - *Incorporate Maynilad examples into slides*



Mary Ann Dickinson



- Chicago-based consultant assigned to develop the modules for Maynilad Training & Certification Course
- Founder and Executive Director of Alliance for Water Efficiency
- Former Executive Director of California Urban Water Conservation Council



How Was it Developed?

- Maynilad staff workshop in January, 2010
- 76 course topics identified in staff workshop
- Training module structure then developed from workshop and further staff input
- Four certification levels (Level 1 to Level 4)
- Training module structure circulated to Maynilad Departments for feedback: HR, Central NRW, BA's, Water Network, PMG
- Final module structure includes staff feedback

Level 0: General Required Courses

- Required for all Maynilad employees and managers
- Administered by HR
- 0A and 0B could be a video or a 1 hour class

0A: What Maynilad's managers should know about NRW

0B: What Maynilad's staff should know about NRW

0C: General intro to water audit and NRW management



Level 1: Introductory Series

- Required of all NRW employees
- All are 4-hour classes
- Reading homework and exams
- Successful passage required for other Levels

1A: Water audit, water balance, water loss performance indicators

1B: Introduction to principles of integrated meter management

1C: Introduction to principles of leak detection and repair

1D: Introduction to Principles of Pressure Management

1E: Introduction to DMA Establishment, Operation, & Management

1F: Introduction to Commercial Loss Reduction

1G: Introduction to Netbase



Level 2: Basic Skills Series

- 2A:** NRW assessment, flow & pressure data analysis, component analysis
- 2B:** NRW management planning & cost estimating
- 2C:** NRW Management and GIS
- 2D:** NRW Management and corporate data sources
- 2E:** Overview of Netbase
- 2F:** Leak repair management
- 2G:** Basic hydraulic modeling and principles
- 2H:** Appurtenances, fittings and pipe materials
- 2I:** Overview of electronic equipment in NRW management
- 2J:** NRW Communications Strategies

Level 3: Intermediate, “Journeyman” Series

- 3-1:** Integrated Meter Management
- 3-2:** Commercial Loss Reduction
- 3-3:** DMAs
- 3-4:** Active Leakage Control
- 3-5:** Pressure Management
- 3-6:** Pipe Installation and Repair

Level 3-1: Integrated Meter Management

- 3-1A:** General Principles of Flow Metering/Flow Measurements
- 3-1B:** Customer meter types and classes
- 3-1C:** Meter Installation, maintenance and replacement: Large meters
- 3-1D:** Meter Installation, maintenance and replacement: Small meters
- 3-1E:** Meter Testing: Standards and Calibration
- 3-1F:** Meter Sizing
- 3-1G:** Customer meter data logging

Level 3-2: Commercial Loss Reduction

- 3-2A:** Commercial loss identification and quantification
- 3-2B:** Problem analysis in the meter reading and billing cycle
- 3-2C:** Advanced billing data interpretation
- 3-2D:** Illegal connection identification and management

Level 3-3: DMAs

- 3-3A:** DMA Design and Establishment
- 3-3B:** DMA Management
- 3-3C:** Permanent and temporary flow and pressure data logging
- 3-3D:** Advanced DMA data analysis
- 3-3E:** Intermediate Hydraulic Modeling

Level 3-4: Active Leakage Control

3-4A: Leak detection theory and background information

3-4B: Leak reporting

3-4C: Leak Noise Sounding

3-4D: Leak Noise Correlation

3-4E: Step Testing

3-4F: Pipe and Valve Location

Level 3-5: Pressure Management

3-5A: Theory and Principles of Pressure Management

3-5B: Pressure Management Planning

3-5C: PRV Management, Commissioning and Maintenance

Level 3-6: Pipe Installation and Repair

3-6A: Design and installation of mains and service connections

3-6B: Repair or replace?

3-6C: Leak repair methods

3-6D: Contract management and site supervision

3-6E: Pressure and Leakage Testing

Level 4: Advanced, “Master” Series

- 4A:** Meter Economic Analysis
- 4B:** Advanced Hydraulic Modeling
- 4C:** PRV and PRV Control System design and specification
- 4D:** Rapid NRW Assessment
- 4E:** Portable Flow Meters
- 4F:** AMR Technology
- 4G:** International NRW Project Management
- 4H:** Using the full functionality of Netbase
- 4I:** Economic Level of NRW
- 4J:** Sahara System Management
- 4K:** Noise Logging

Objectives

- To develop the first integrated and most comprehensive Training Certification Program in the world recognize by International Water Association (IWA)
- To develop a uniform set of training modules according to standard operating procedures (SOP)
- To gauge the knowledge of the employees particularly on the course relevant to their day-to-day works

Background

- September 2009 Roland Liemberger recommended an Integrated Training Course for NRW
- November 2009 Mary Ann Dickinson conducted an assessment of NRW Training Program
- January 2010 CHCOD conducted Training Need Analysis (TNA) with different Maynilad Divisions
- February 2010 Mary Ann Dickinson finalized the module for MNMTCP
- July 2010 MNMTCP Level 0 was launched



Mary Ann Dickinson's Findings

- Need to standardize the existing Maynilad training program
- Some training modules has outdated data
- Some important courses were not offered such as construction supervision training
- Managers and staff were trained in the same training program
- Need to expand the training to other Maynilad Division
- No examination after training
- No certification

Maynilad NRW Management Training & Certification Program (MNMTCP)

- The First and Most Comprehensive Training and Certification Program in the World
- Four Level Training Modules
- Examination every after training (except Level 0) which may be a mixture of written and field testing
- Successful passage is prerequisite to next level module

Launching of MNMTCP Level



July 15, 2010 at PPEC, Balara, Quezon City with Mr. Roland Liemberger as lecturer

MNMTCP FOREIGN LECTURERS/TRAINERS



Roland Liemberger

Roland Liemberger
Austria

Level 0: Introduction to
NRW Management
PPEC Room
MWSI, Balara, QC
July 15, 2010



Pankaj Mistry

Pankaj Mistry
India/Australia

Level 1D: Introduction to
Principles of Pressure
Management
Juan Luna Hall
MWSI, Balara, QC
October 28, 2010



Mary Ann Dickinson

Mary Ann Dickinson
USA

Train the Trainers
DMCI Amphitheater
Bangkal, Makati City
July 20, 2010



Dewi Rogers

Dewi Rogers
Italy

Level 2G: Basic Hydraulic
Modeling & Principles
Juan Luna Hall
MWSI, Balara, QC
November 19, 2010



FUTURE LECTURERS/TRAINERS



John Dixon

John Dixon

UK

Level 1E: DMA
Establishment, Operation
& Maintenance

November 2010



Francisco Arregui

Francisco Arregui

Spain

Level 1B: Principle of
Integrated Meter &
Commercial Loss

Management

December 2010



Stuart Hamilton

Stuart Hamilton

UK

Level 1C: Leak Detection &
Repair

January 2011

TRAIN THE TRAINERS



Batch 1, (from left) Justin Arce, Manuel Caldit, Sherwin Mendoza, Dei Sunga, Mary Ann Dickinson, Joy Capili, Kai Gaon, Aris Vosotros, Irvin Fadera

Batch 2, (from left) Ariel Dayanghari, Raffy Posadas, Jay Machael Ilagan, Dian Lumba, Leo Presa, Mary Ann Dickinson, Rolex Jodieres, Ryan Jamora, Manuel Caldit



LOCAL TRAINERS



Three of the local trainers from Train the Trainers Seminar: (from left) Mr. Kai Gaon, Mr. Leo Jeriel Presa and Mr. Ryan Jamora

Level 1D Training



The launching of Level 1D – Introduction to Pressure Management and Principle last October 28, 2010 held in Balara, Quezon City

Examination for Level 1D



First run of examination for Level 1D held last November 10, 2010 at DMCI Seminar Room, Bangkal, Makati City

Result of Examination

Passing Grade	85%
Total No of Participants for Level 1D	129
Total No of Participants on Examination	103
Total No of Participants who passed the Exam	57
Total No of Participants who failed in the Exam	46
Passing Rate	55%

Future Training Schedule

November 2010

- Level 2G – Basic Hydraulic Modeling and Principle/Dewi Rogers
- Level 1E – DMA Establishment, Operation and Maintenance/John Dixon

December 2010

- Level 1A – Water Audit, Water Balance, Performance Indicators/Roland Liemberger
- Level 1B – Principles of Integrated Meter & Commercial Loss Management/ Francisco Arregui

January 2011

- Level 1C – Leak Detection and Repair/Stuart Hamilton
- Level 2A – NRW Assessment, Flow & Pressure Analysis, Component Analysis/Roland Liemberger

February 2011

- Level 3-5 – Pressure Management Series/Pankaj Mistry



Future Training Center

Permanent Leak Detection Training Center Facility

Before!

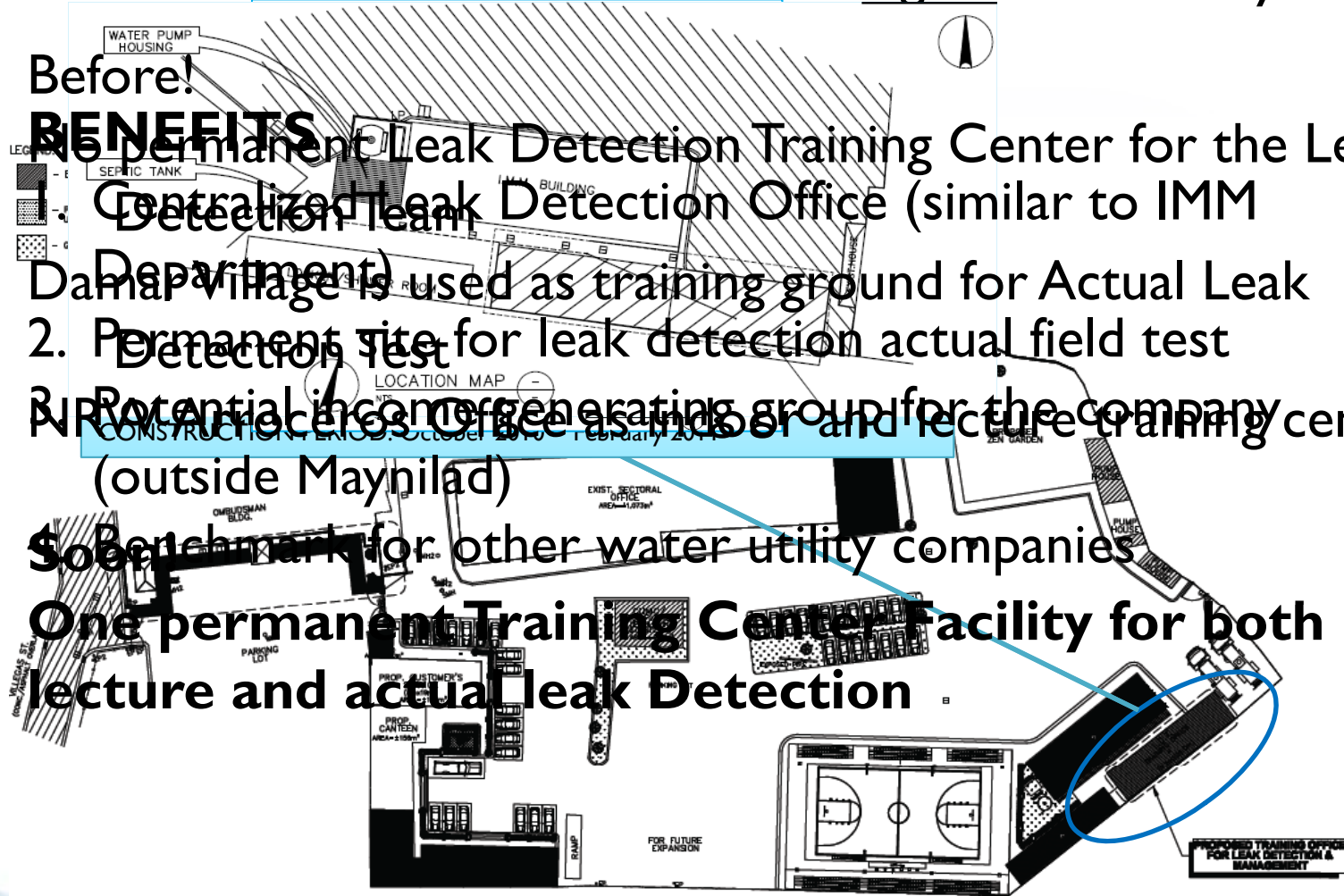
BENEFITS
1. No permanent Leak Detection Training Center for the Leak Detection Office (similar to IMM Department)

2. Damar Village is used as training ground for Actual Leak Detection
3. Permanent site for leak detection actual field test

4. Potential income generating group for the company
5. Potential for other training center (outside Maynilad)

6. Benchmark for other water utility companies

7. One permanent Training Center Facility for both lecture and actual leak Detection



Vision

- To develop local NRW experts to be at par level with their international counterpart
- To offer the training course to other water utility companies here and abroad
- To become the Center for Excellence in Training & Certification Program



Maynilad

Thank you.