ABILITY TESTING FOR METER READERS

City of Lakeland, FL
Historical Information

- 20 Meter Reading Positions
- 67% turnover from FY 2002 to 2005
- 95% for FY 2005

Most common reasons for dismissal
- Meter reading inaccuracies

Most common reasons for resigning
- Too physically demanding
- Better job, better pay

Test had not been updated in six years

New manager that understands and supports testing
KSAO Linkage

- Listed all KSAOs and identified what selection components were needed
- Linked each KSAO to the proper selection component(s) (handout)
Selection Components

- New Written Test
- Field Test (to be developed)
- Interview
- Previous Employment Check
- Medical Examination
- Driver’s License Check
- Probationary Period
**Job Analysis Data - Tasks**

- Reads meters with little or no error
- Enters meter readings with little or no error
- Drives city vehicle up to 100 miles per day
- Computes customers’ utility consumption
- Provides estimates of bills to customers
- Follows safety rules and procedures
- Finds locations of meters
Job Analysis Data KSAOs

Based on FDE

- Ability to accurately read various types of electric and water meters and accurately record the information - #1
- Ability to listen to and comprehend oral instructions/requests
- Skill in reading maps/Ability to read maps and city street directories
- Skill in knowing how to find and use information
- Knowledge of left, right, north, south, east, and west
- Ability to read and follow written directions, operating procedures, city policies, training bulletins, etc.
- Knowledge of proper grammar and vocabulary
- Ability to verify readings entered into processor
- Skill in basic math computations
Written Test ï  Section One

- Ability to accurately read various types of electric and water meters - #1
- Ability to accurately record information from meter readings - #1
- Meter Reading Accuracy
- Presented via Power Point
Meter Reader Test for the City of Lakeland, FL

Assessment Services
Meter Reading
Accuracy
Example
Get ready for the test items.
Written Test ii  Section Two

- Ability to listen to and comprehend oral instructions/requests
- Listening Comprehension
- Actual Meter Reader Coordinators
- Based on actual transmissions
- Taped via radio for realistic effect
- Allowed to take notes
Section 2

LISTENING

COMPREHENSION
Scenario 1
1. What needed to be rechecked by the meter reader?
1. What needed to be rechecked by the meter reader?

A. The condition of the electric meter
1. What needed to be rechecked by the meter reader?

A. The condition of the electric meter
B. The condition of the water meter
1. What needed to be rechecked by the meter reader?
   A. The condition of the electric meter
   B. The condition of the water meter
   C. The electric meter reading
1. What needed to be rechecked by the meter reader?

A. The condition of the electric meter
B. The condition of the water meter
C. The electric meter reading
D. The water meter reading
Written Test in Section Three

- Skill in reading maps
- Ability to read maps and city street directories
- Knowledge of left, right, north, south, east, and west
- Map Reading
- Generic Map
- Presented via PowerPoint on large screen
End of Listening Comprehension Section
Map Reading Instructions
Section 3
Test Administrator: Please turn off the projector.
Map Reading

You are at the corner of South 3rd Street and Vine Street. Which statement is correct?

A. South 5th Street is to the west.
B. South Railroad Street is to the east.
C. Cedar Street is to the north.
D. Chestnut Street is to the south.
Map Reading

You are traveling south on North 5th Avenue and come to Valley Drive. In order to reach Chestnut Street, you should:

A. turn right on Valley Drive and left on North 3rd Street.

B. turn left on Valley Drive and left on North 3rd Street.

C. turn right on Valley Drive and right on North 3rd Street.

D. turn left on Valley Drive and right on North 3rd Street.
Written Test Part Four

- Ability to read and follow written directions, operating procedures, city policies, training bulletins, procedure updates, equipment manuals, etc.
- Reading Comprehension
Excerpts from Policy and Procedure Manual:
- Common Problems Encountered (also a realistic job preview)
- Getting Ready for the Day
- Estimating Meter Readings
- Meter Reading Processor

20 M/C questions
Written Test í Part Five

- Knowledge of proper grammar and vocabulary in order to communicate effectively with others
- English Usage
- Vocabulary
English Usage and Vocabulary

- 15 M/C Questions 5 basic English Usage, 10 Vocabulary
- Chose vocabulary based upon common terminology used within the department
- Examples “Defects,” “tampering,” “status,” “precautions,” “obstacles”
- Used in sentences with four answer choices
Written Test ï Part Six

- Ability to verify readings entered into processor
- Checking
Checking

- 10 sets of four similar/alike number series
- Have to identify how many are exactly alike in each set
- Example:
  04012769
  04412769
  04412769
  04017269
  04017269
  04012796
Written Test Part Seven

- Skill in basic math computations
- Math Aptitude
Math Aptitude

The goal for a meter reader is to have no more than one (1) estimated reading per 100 meters read. A meter reader reads 8,963 meters in a one-month period and reports 92 estimated readings. Has the goal been achieved by this meter reader?

A. Yes
B. No. The meter reader had approximately one too many estimated readings.
C. No. The meter reader had approximately two too many estimated readings.
D. No. The meter reader had approximately four too many estimated readings.
Written Test ï Part Eight

- Ability to read maps and city street directories
- Skill in knowing how to find and use information
- Street Directory Usage
- Applicants are provided a City of Lakeland Street Directory
Street Directory Usage

Dyer MHP is located at:

A. 415 Arizona Ave.
B. 11105 Old Dade City Rd.
C. 1525 Duff Rd.
D. 2302 Smithwood Dr.
Written Test Part Nine

- Ability to accurately read various types of electric and water meters - #1
- Ability to read and follow written directions, operating procedures, etc.
- Dial Comprehension
- Examples with explanations are given in test booklet
Meter Reading Accuracy

Instructions: Read each of the following five-dial meters using the directions below and choose the best answer. You are to follow these instructions to arrive at the correct answer. Do not let any previously acquired contradictory meter reading knowledge affect your answers.

1. Read each dial of the five-dial meter from left to right.
2. When the hand on each dial falls between two numbers, the correct reading is always the smallest number.
3. When the hand falls between the numbers 1 and 0, the correct reading is always 0. In this case 0 stands for 0.
4. When the hand falls between the numbers 9 and 0, the correct reading is always 9. In this case 0 stands for the number 10.
Dial Comprehension

A. 84328
B. 74218
C. 85329
D. 74328
E. 75229
Piloting of Test

- New test was given to 8 junior meter readers
- Feedback was solicited from participants (handout)
- Test was also piloted with two individuals who do not work in the meter reading department – one recent H.S. graduate, one college student
Results of Test Pilot

.71 correlation between raw scores on written test and accuracy rates

The higher the test score, the more accurate meter reads were made
Realistic Job Preview

- Designed RJP to inform applicants of work environment
- Presented at test session prior to test
- Have had applicants choose to leave
- Working on RJP video which will be shown at beginning of test session
- Listed on employment website when job is posted.
Test Statistics

- Have administered new test four times
- Have hired ten employees
- Have terminated one
- Terminated individual did not score particularly well - 75.89% (25 applicants scored better, some very significantly)
- Was hired based on his previous experience
- Did not do well on reading meters on test
- Made many errors in the field
- Others hired had much higher test scores - 90.69% avg. (Range 82.14% - 99.11%)
More Statistics

- Turnover rate for FY 2006 (Oct. 2005 – present) 45% (9 employees)
- Includes two promotions
- One termination (new testing)
- Two terminations (old testing)
- Four resignations (old testing)
- Turnover rate based on new testing 5%
Remaining Challenges

- Complete RJP video
- Continue monitoring item statistics
- Continue monitoring job performance of those selected
- Determine if any test section should be weighted
- Will get correlation between new employees' accuracy rates and test scores when they have enough time on the job and we have enough new employees
- Continue attempting to convince supervisors that job analysis data should be used to develop interview questions
- Develop Field Test
- Design creative and effective recruitment strategies
QUESTIONS AND ANSWERS