



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

September 21, 2016
Honolulu, Hawaii

Requesting Authority for the Chairperson to Enter Into a Contract to
Conduct Water Audit Training Technical Assistance

SUMMARY OF REQUEST

The staff of the Commission on Water Resource Management (Commission) requests authorization for the Chairperson to enter into a contract to provide technical assistance training to public water system personnel in water audit methods and to expend up to \$700,000 for this purpose. Staff also requests authority for the Chairperson to enter into agreements to receive federal, state, or private funding to complete the training. This program activity is required to carry out the purposes of Act 169, Session Laws of Hawaii, 2016.

BACKGROUND

In February 2013, the Commission completed its Hawaii Water Conservation Plan, which recommended two priority actions for the near-term: (1) an irrigation metering demonstration project for agriculture and (2) procedures for conducting and requiring annual water loss audit of public water systems. The Commission approved these program measures at its March 20, 2013 meeting. The Commission implemented its first priority action in 2013 through a partnership with the U.S. Geological Survey to conduct a diversion metering training workshop for large agricultural irrigation systems. To implement the second priority action, Commission staff worked with the Hawaii Fresh Water Initiative partners to develop legislation that would help to achieve statewide water audits for public water systems.

Act 169, Session Laws of Hawaii, 2016 (Act 169), was signed into law by Governor David Ige (Exhibit 1). The Act authorizes and requires the Commission to develop and implement a water audit program and provide technical assistance (training) to counties and other public water system owners to complete validated standardized water audits. The county-owned public water systems are required to submit annual water audits to the Commission beginning in 2018, and the remaining public water systems serving a population of 1000 or more, and public water systems in water management areas, are required to submit annual water audits to the Commission beginning in 2020. Act 169 authorizes the Commission to expend \$600,000 in federal (sourced) funding and \$100,000 in private funding to implement provisions of the Act.

A water audit is an accounting procedure to determine the amount of non-revenue water in a water distribution system. Water audits employ a mass-balance analysis of water entering and leaving the system. The ultimate objective is to reduce system water losses and conserve water supplies through the implementation of data-driven, cost-effective water loss control strategies. A water audit may also detect losses through billing errors or defective metering.

PROJECT DESCRIPTION AND SCOPE OF SERVICES

To carry out the purposes of Act 169, a project to provide technical assistance for training public water system operators and personnel in water loss audits is proposed.

Project Objectives

There are several important objectives of this proposed project, which are described below:

1. Provide technical assistance and training to targeted public water system operators and owners, enabling them to conduct a water audit using the free American Water Works Association water audit software and to understand the results.
2. Achieve 100% participation from the targeted public water systems in conducting annual American Water Works Association water audits.
3. Commission receipt of validated water audits from public water systems participating in this training program.
4. Establish water audits as a best practice among all public waters system in Hawaii.
5. Help public water systems better understand their distribution system and water balance.
6. Inform water loss control strategies.
7. Summarize project findings in a report.

This project would affect approximately 103 public water systems, about 80% of all public water systems that deliver over 90% of the drinking water in the State (226 million gallons per day in 2014).

Project Partners

The Commission would partner with the Hawaii Department of Health and other organizations to form a collaborative water loss control committee to help guide the project. These organizations may include state and county agencies, water supply utilities, water utility professionals, water loss control experts, Hawaii Rural Water Association, Rural Community Assistance Corporation, and the American Water Works Association-Hawaii Section.

Methodology

The Commission will convene a water loss control committee to improve collaboration and cooperation with the public water systems across the state and to facilitate implementation of the water audit training program. Project funding would be through a combination of federal, state, or private funding. The Commission would contribute services in-kind. Commission staff would apply for federal and private funding and act as the contracting agency and project manager while following State of Hawaii procurement laws and rules. A consulting contractor would be hired to assist the Commission to complete this project using a collaborative and hands-on approach to conducting water audits. The public water system personnel will be trained through a series of workshops and one-on-one follow-up telephone calls, with several “touch points” with these utility personnel.

After receiving training and technical assistance from the Commission, it is expected that each of the affected public water systems will develop its own internal capacity and skill sets to continue to submit validated water audits to the Commission on an annual basis. However, refresher water audit workshops may be offered from time to time by the Commission based on overall water audit results and the need for additional training.

Project Description

This project is comprised of six key elements, similar to the approach used in the Commission's pilot water audit training program completed in May 2016. This program will be completed in two phases targeting a different category of public water systems in each phase. Phase 1: Municipal / county-owned systems. Phase 2: privately-owned systems serving a population of 1,000 or more, or operating in water management areas. The total number of public water systems reached would be approximately 103 (see Exhibit 2). The project will take up to 48 months to complete.

Key Water Audit Training Program Elements

1. Establish a water loss control committee
2. Introduction workshop and initial water audit preparation (Kauai, Oahu, Molokai, Maui, Hawaii)
3. Audit basics technical review (one-on-one phone call with utility)
4. Validation workshop (Kauai, Oahu, Molokai, Maui, Hawaii)
5. Data validation call (one-on-one phone call with utility)
6. Program analysis and report

Categories of Public Water System to be Trained

1. Municipal or county-owned public water systems
2. Privately-owned public water systems serving a population of 1,000 or more and public water system in water management areas

Project Deliverables

1. Validated water audit submissions to the Commission from each public water system
2. Technical memos for each public water system water audit, detailing findings and recommendations
3. Comprehensive report of water audit program including program analysis and recommendations for refinement

The project detailed scope of services, timeline and budget would be developed through the contracting process with prospective consulting contractors. The Commission will procure these services in compliance with the Hawaii State procurement laws.

FUNDING AND MEMORANDA OF AGREEMENT

The sources of funding for this project are federal and private funds totaling \$700,000. Act 169 authorizes \$600,000 in federal and \$100,000 in private funding to implement a water audit program as described above. Funds will be provided by a combination of U.S. Environmental Protection Agency/Hawaii Department of Health Safe Drinking Water State Revolving Fund 15% set-aside grant funds and private grant funding. Due to the dual sources of funding, the timing of funding application and awards, and the uncertainty of awards, this project will be completed utilizing a multi-term contract, whose renewal will be contingent on award of Drinking Water State Revolving Funds set-aside funding.

Hawaii Department of Health

Section 1420(k) of the Safe Drinking Water Act (as amended) allows up to 15% of Hawaii's Environmental Protection Agency drinking water capitalization grant to be set-aside to support local assistance and other State programs. Commission staff will apply to the Hawaii Department of Health for Drinking Water State Revolving Fund Set-Aside funding to fulfill the \$600,000 of federal funding authorized in Act 169. We understand that this proposed water loss audit training program is a qualified project under this authority. In order to receive this funding, the Commission would enter into a *memorandum of agreement* with the Hawaii Department of Health and/or the Environmental Protection Agency.

Projected Annual Funding Request, Drinking Water State Revolving Fund 15% set-aside:

Federal Fiscal Year 17 (Contract Term 1): \$200,000

Federal Fiscal Year 18 (Contract Term 2): \$250,000

Federal Fiscal Year 19 (Contract Term 3): \$150,000

SUM: \$600,000

Private Funding

Commission staff will apply for private grant funding to fulfill the \$100,000 private funding requirement of Act 169. To receive this funding, the Commission may need to enter into a *memorandum of agreement* with a private foundation or organization.

Commission on Water Resource Management

Commission staff will provide in-kind services of stakeholder coordination and outreach, procurement, contracting, and project management over the life of the project.

AUTHORITY

Under its general powers and duties, the Commission has the authority to plan and coordinate programs for the conservation of water and to contract with private persons to assist with these programs.

§174C-5 (4), Hawaii Revised Statutes: (the commission) May contract and cooperate with the various agencies of the federal government and with state and local administrative and governmental agencies or private persons;

§174C-5 (13), Hawaii Revised Statutes: (the commission) Shall plan and coordinate programs for the development, conservation, protection, control, and regulation of water resources based upon the best available information, and in cooperation with federal agencies, other state agencies, county or other local governmental organizations and other public and private agencies created for the utilization and conservation of water;

Act 169 authorizes the Commission to establish a program to implement standardized water audits of public water systems in accordance with the method adopted by the American Water Works Association and to provide public water system operators technical assistance. The Act also authorizes a combined \$700,000 in federal and private funds to establish and implement a water audit program.

ENVIRONMENTAL REVIEW CHAPTER 343, HAWAII REVISED STATUTES

This planning study is exempt from the application of HRS Chapter 343 pursuant to HRS §343-5(b) and Hawaii Administrative Rule §11-200-5(d). This is for a planning-level study and will not involve testing or other actions that may have a significant impact on the environment.

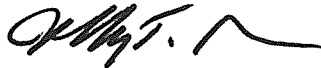
RECOMMENDATIONS

Staff recommends that the Commission:

1. Authorize the Chairperson to enter into a contract to provide water audit training in water audit and water loss control methods to public drinking water system personnel and to expend up to \$700,000 in combined federal, state, or private funds, for the purposes of Act 169.
2. Authorize the Chairperson to amend or modify the contract as may be necessary to accomplish the goals and objectives of Act 169, provided that any amendment or modification does not require additional Commission funding.
3. Authorize the Chairperson to enter into memoranda of agreement with federal, state, or private agencies or organizations to receive grant funding to implement the provisions of Act 169.

The terms of the contract would be subject to the availability of funding and approval of the Chairperson and the Department's Deputy Attorney General. Procurement and contracting will be done in accordance with Chapter 103D, Hawaii Revised Statutes and Chapter 3-122, Hawaii Administrative Rules. Memoranda of agreement shall be approved by the Department's Deputy Attorney General.

Respectfully submitted,



JEFFREY T. PEARSON, P.E.
Deputy Director

EXHIBIT 1: Act 169, SLH 2016
EXHIBIT 2: List of public water systems

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE
Chairperson



GOV. MSG. NO. 1271

EXECUTIVE CHAMBERS
HONOLULU

DAVID Y. IGE
GOVERNOR

June 30, 2016

The Honorable Ronald D. Kouchi,
President
and Members of the Senate
Twenty-Eighth State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813

The Honorable Joseph M. Souki,
Speaker and Members of the
House of Representatives
Twenty-Eighth State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Souki, and Members of the Legislature:

This is to inform you that on June 30, 2016, the following bill was signed into law:

SB2645 SD2 HD1 CD1

RELATING TO WATER AUDITS
ACT 169 (16)

Sincerely,

A handwritten signature in black ink that reads "David Y. Ige".

DAVID Y. IGE
Governor, State of Hawai'i

EXHIBIT 1

JUN 30 2016

on _____

THE SENATE
TWENTY-EIGHTH LEGISLATURE, 2016
STATE OF HAWAII

ACT 169

S.B. NO.

2645
S.D. 2
H.D. 1
C.D. 1

A BILL FOR AN ACT

RELATING TO WATER AUDITS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. Article XI, section 7, of the Hawaii State
2 Constitution obligates the State to protect, control, and
3 regulate the use of Hawaii's water resources for the benefit of
4 its people.

5 Fresh water is the lifeblood of society. The quantity and
6 quality of fresh water directly impact the health, welfare,
7 economy, and quality of life in Hawaii. Fresh water
8 infrastructure has been constructed to withdraw water from
9 available sources, to treat it to acceptable standards, and to
10 distribute it to our various communities.

11 Based on the department of health's database, there are a
12 little over fifty county-run public water systems statewide and
13 another fifty large capacity public water systems and public
14 water systems operating in designated ground water management
15 areas. Many of these water distribution systems, however, may
16 be operating with inefficiencies that result in the loss of
17 water, increased energy costs, and lost revenue.



1 Water conservation is among the least expensive and most
2 efficient ways to increase the available supply of fresh water.
3 It requires improving the efficiency of water delivery and
4 identifying losses to the system. A water audit helps a utility
5 understand how much water is lost from a distribution system
6 through the detailed analysis of data, which the utility can use
7 to make informed decisions to reduce real or apparent losses.

8 There is a growing trend across the United States where
9 states, including California, Colorado, Delaware, Georgia, New
10 Mexico, Pennsylvania, Tennessee, Texas, Washington, and
11 Wisconsin, and their water authorities have begun to mandate
12 water audits by water utilities.

13 The purpose of this Act is to establish a program to
14 implement standardized water audits of public water systems in
15 accordance with the method adopted by the American Water Works
16 Association's Water Audits and Loss Control Programs, Manual of
17 Water Supply Practices - M36, as amended.

18 SECTION 2. The commission on water resource management
19 shall establish a five-year program to provide technical
20 assistance to public water systems to conduct standardized water
21 audits of public water systems in accordance with the method



1 adopted by the American Water Works Association's Water Audits
2 and Loss Control Programs, Manual of Water Supply Practices -
3 M36, as amended.

4 In the first two years, the commission shall establish a
5 program for the counties to conduct standardized water audits of
6 public water systems operated by the counties. In the following
7 two years, the commission shall extend the program to all
8 remaining large capacity public water systems and public water
9 systems in designated water management areas.

10 In establishing the program, the commission shall utilize
11 the American Water Works Association's Free Water Audit
12 Software, Version 5.0 or subsequent versions. The program
13 elements shall include water audit training workshops, level 1
14 validation of water audits and follow-up communication, and
15 recommendations to improve water audit validity scores and to
16 address system losses.

17 SECTION 3. The standardized water audits shall follow the
18 key parameters for establishing a water audit outlined in the
19 American Water Works Association's Water Audits and Loss Control
20 Programs, Manual of Water Supply Practices - M36, as amended,
21 including:



- 1 (1) Describing the distribution system boundaries to
2 identify all water sources supplying water to the
3 system, calculate the system input volume, and
4 calculate the volume of water supplied into the
5 distribution system;
- 6 (2) Setting time periods for the audit that are sufficient
7 to allow analysis and evaluation of the system water
8 supply;
- 9 (3) Establishing standardized units of measure so supply
10 and consumption units are the same;
- 11 (4) Assembling records and data from a wide variety of
12 operations in the water systems, including:
 - 13 (A) Water supplied, including volume from own
14 sources, and water imported or exported;
 - 15 (B) Authorized water consumption, including billed
16 metered, billed unmetered, and unbilled metered;
 - 17 (C) Water system data, including length of mains,
18 number of service connections, average length of
19 customer service lines, and average operating
20 pressure; and



1 (D) Cost data, including total annual cost of
2 operating the water system, customer retail unit
3 cost, and variable production costs; and

4 (5) Identifying, quantifying, and assigning costs to
5 apparent losses and real losses.

6 SECTION 4. On January 1, 2017, the commission shall
7 implement the water audit program developed pursuant to sections
8 1 and 2 of this Act, and shall include a process for level 1
9 validation of water loss audit reports which follows the
10 principles and terminology in the American Water Works
11 Association's Water Audits and Loss Control Programs, Manual of
12 Water Supply Practices - M36, as amended, including the Free
13 Water Audit Software, version 5.0 or subsequent versions.

14 The commission shall provide the counties and other
15 operators of public water systems subject to this Act the
16 technical assistance and information necessary to help prepare
17 and validate the water loss audit reports.

18 SECTION 5. Beginning in 2018, and for each subsequent year
19 thereafter, the counties shall submit, on July 1 of each year, a
20 completed and validated water loss audit report for each public
21 water system operated by the counties for the previous calendar



1 year to the commission. Beginning on July 1, 2020, and for each
2 subsequent year thereafter, all remaining large capacity public
3 water systems and public water systems in water management areas
4 shall submit, on July 1 of each year, a completed and validated
5 water loss audit report on their water systems for the previous
6 calendar year to the commission. Each water loss audit report
7 submitted to the commission shall be accompanied by information
8 identifying steps taken in the preceding year to increase the
9 validity of data entered into the final audit, reduce the volume
10 of apparent losses, and reduce the volume of real losses.

11 SECTION 6. As used in this Act:

12 "Commission" means the commission on water resource
13 management.

14 "Designated water management area" means a geographic area
15 that has been designated pursuant to section 174C-41, Hawaii
16 Revised Statutes.

17 "Large capacity public water system" means a public water
18 system that serves a population of one thousand or more.

19 "Level 1 validation" means a water audit that has been
20 subject to a third-party desktop review of data that is
21 immediately available, which may include supply reports,



1 consumption reports, and testing reports. "Level 1 validation"
2 includes utility staff interviews with third-party validators
3 focused on outlining organizational practices to ensure that
4 data validity scores have been assigned correctly and
5 consistently, and confirmed, corrected, or noted as needing
6 further investigation.

7 "Public water system" means a system subject to Federal
8 Safe Drinking Water Act regulations, which provides water for
9 human consumption through pipes or other constructed
10 conveyances. Such a system includes any collection, treatment,
11 storage, and distribution facilities under the control of a
12 utility and used primarily in connection with the system.

13 SECTION 7. There is authorized out of other federal funds
14 the sum of \$600,000 or so much thereof as may be necessary for
15 fiscal year 2016-2017 to conduct standardized water audits of
16 public water systems as set forth in this Act; provided that
17 private matching funds of \$100,000 are provided.

18 There is appropriated out of the revenues authorized by
19 this section the sum of \$700,000 or so much thereof as may be
20 necessary for fiscal year 2016-2017 to establish and implement




1 the program to conduct standardized water audits of public water
2 systems in accordance with this Act.

3 The sum appropriated shall be expended by the commission on
4 water resource management for the purposes of this Act.

5 SECTION 8. This Act shall take effect on July 1, 2016.

APPROVED this ~~30~~ 30 day of JUN, 2016



GOVERNOR OF THE STATE OF HAWAII

Preliminary List of Public Water Systems for Water Audit Training

SYSNUM	SYSNAME	OWNER	POP	SVC_CNC
PHASE 1 COUNTY-OWNED PWS				
212	Wailuku	DWS Maui	68976	20287
213	Makawao	DWS Maui	28702	6675
214	Lahaina	DWS Maui	18122	3236
215	Upper Kula	DWS Maui	7038	2346
217	Hana	DWS Maui	1101	367
218	Honokohau	DWS Maui	42	15
219	Keanae	DWS Maui	270	90
220	Nahiku	DWS Maui	107	43
233	Ualapue	DWS Maui	1045	380
234	Kaunakakai	DWS Maui	3375	1125
235	Kalae	DWS Maui	348	116
247	Lower Kula	DWS Maui	3192	1064
331	Honolulu-Windward-Pearl Harbor	BWS Honolulu	676358	103975
332	Waialua	BWS Honolulu	13447	3110
333	Wahiawa	BWS Honolulu	24798	5207
334	Waipio Heights	BWS Honolulu	16616	2214
335	Waipahu-Ewa-Waianae	BWS Honolulu	188539	37959
365	Kahuku	BWS Honolulu	3426	444
366	Waialea-Sunset Beach	BWS Honolulu	4341	843
367	Mililani	BWS Honolulu	35875	11413
101	Hilo	DWS Hawaii	37430	13863
102	Laupahoehoe-Kapehu	DWS Hawaii	1166	432
103	Ninole	DWS Hawaii	135	50
104	Ookala	DWS Hawaii	262	97
105	Honolulu	DWS Hawaii	635	235
106	Pepeekeo	DWS Hawaii	1423	527
107	Papaikou	DWS Hawaii	2130	789
108	Waiohinu-Naalehu	DWS Hawaii	2765	1024
109	Pahala	DWS Hawaii	1245	461
110	Kalapana	DWS Hawaii	251	93
111	Pahoa	DWS Hawaii	2471	915
112	Olaa-Mountain View	DWS Hawaii	6313	2338
129	North Kohala	DWS Hawaii	4679	1733
130	South Kohala	DWS Hawaii	9599	4337
131	North Kona	DWS Hawaii	27942	10349
132	South Kona	DWS Hawaii	6434	2383
133	Kukuihaele	DWS Hawaii	435	161
134	Paaui	DWS Hawaii	707	262
139	Niulii	DWS Hawaii	265	98
154	Hakalau-Wailea	DWS Hawaii	400	148
160	Lalamilo	DWS Hawaii	1866	691
161	Haina	DWS Hawaii	4644	842
169	Hawaiian Ocean View Estates	DWS Hawaii	1000	6
400	Lihue-Kapaa	DW Kauai	31337	9560
401	Anahola	DW Kauai	2223	576
402	Anini	DW Kauai	156	55
403	Hanalei	DW Kauai	450	349
404	Hanapepe-Eleele	DW Kauai	5028	1575
406	Kekaha-Waimea	DW Kauai	5392	1698
407	Kilauea	DW Kauai	2803	1298
415	Haena-Wainiha	DW Kauai	1180	357
434	Kalaheo-Koloa	DW Kauai	11382	4799

EXHIBIT 2

Preliminary List of Public Water Systems for Water Audit Training

SYSNUM	SYSNAME	OWNER	POP	SVC_CNC
PHASE 2 LARGE CAPACITY PWS AND PWS IN WATER MANAGEMENT AREAS				
117	Hawaiian Beaches	Hawaiian Beaches Water Company, Inc.	3430	1065
135	Waikoloa	Hawaii Water Service Company	12100	2446
146	Hawaii Volcanoes Nat.Park	U.S. Dept. of Interior	3374	76
156	Hawaiian Shores	Hawaiian Shores Association	1310	450
163	Kaupulehu	Kaupulehu Water Company	1760	390
204	Kapalua	Kapalua Water Co., Ltd.	4200	555
205	Kaanapali	Hawaii Water Service Company	8000	700
222	Haleakala National Park	National Park Service	1200	17
229	Kualapuu	Waiola O Molokai	500	172
230	Hoolehua	Dept of Hawaiian Home Lds	1900	460
231	Maunaloa-Kaluakoi	Waiola O Molokai/MPU	1000	358
237	Lanai City	Pulama Lanai	3000	1700
239	Kalaupapa NHP	National Park Service	110	138
240	Hawaii Nature Center	Hawaii Nature Center	75	3
245	Kipu	Waiola O Molokai	80	20
248	Kawela Plantation	Kawela Homeowners Assn.	520	156
260	Kipahulu	National Park Service	2000	4
303	Kunia Village	Kunia Village Title Holding Corp.	650	138
304	Hawaii Country Club	Hawaii Country Club	400	2
306	Waimano Ridge	Department of Health	400	52
309	Waialua Sugar Pump 2	Dole Food Co., Inc.	400	120
312	The Queen's Medical Center	The Queen's Medical Center	3400	1
314	St. Stephen's Diocesan Center	Roman Catholic Church,HI	45	8
315	Kahuku Air Base	Kahuku Water Association, Inc.	75	25
319	Kamehameha Schools	Kamehameha Schools	4000	65
320	Mililani Memorial Park	Mililani Memorial Park	100	1
324	Punahou School	Punahou School	4000	10
325	Laie Water Company	Laie Water Company	5577	700
326	Dillingham Ranch	North Shore Water Company, LLC	100	58
328	Kipapa Acres C.P.R.	Kipapa Acres C.P.R.	43	15
330	Sheraton Hotels	Kyo-ya Co., Ltd.	2830	3
337	Aliamanu	US Army Dir of Public Wks	7513	545
338	Dillingham Airfield	Dept. of Transportation	1800	12
341	Fort Shafter	US Army Dir of Public Wks	8213	418
345	Schofield Barracks	US Army Dir of Public Wks	40558	1841
346	Tripler Army Medical Cntr	US Army Dir of Public Wks	5693	83
348	Waiawa Correctional Facility	Dept. of Public Safety	444	12
354	Camp Stover	NAVFAC Hawaii	595	200
355	Barbers Point	NAVFAC Hawaii	5256	1117
356	Marine Corps Base Hawaii	U.S. Marine Corps	15900	2555
357	NCTAMS EASTPAC	NAVFAC Hawaii	6470	186
360	Joint Base Pearl Harbor-Hickam	NAVFAC Hawaii	65230	7619
368	Waiahole	Hawaii Housing Finance & Development Crp	300	104
370	Palehua Solar Observatory	Gill Ewa Lands, LLC	50	7
371	Poamoho Estates	Poamoho Water Association, Inc.	50	13
372	Woodlands at Nuuanu	Woodlands at Nuuanu AOA	48	18
373	The Queen's Medical Center West Oahu Potable	The Queen's Medical Center	800	5
417	Gay & Robinson	Gay & Robinson, Inc.	999	325
425	Koikee State Park	DLNR State Parks	2000	93
428	Princeville	Princeville Utilities Co., Inc	1698	1103
430	PMRF	U.S. Dept. of the Navy	1200	185