

# Finance Committee Meeting

April 25, 2013  
9:00 a.m

Committee Members Present: Larry Dill, *Chair*, Clyde Nakaya

Board Members Present: Randy Nishimura, *Board Chair* (arrived at 9:25 am)

Staff Present: David Craddick, Kirk Saiki, Marites Yano, Aaron Zambo, Dustin Moises, Keith Aoki, Val Reyna, Sandi Nadatani-Mendez, Joy Buccat, Debra Peay

Guests: Stephen Spears, Kaua'i Habitat and Dale Shimomura, Hawai'i Government Employees Association

Chair Dill called the Finance Committee Meeting to order at 9:13 a.m.; quorum was achieved with two members present.

## **AGENDA**

Mr. Nakaya moved to accept the agenda; seconded by Chair Dill; with no objections, motion was carried.

## **MINUTES**

There were no minutes for review and approval for this Finance Committee meeting.

## **OLD BUSINESS**

Manager's Report No. 11-49 – Financial Planning Analysis & Water Rate Study Rates

Explanation/Background

- a. Needs Assessment Study and FRC *revised* January 24, 2013
- b. Part 4 Fixing Rates for Water Service, Section VII Facilities Reserve Charge
  - i. The Schedule
  - ii. Indexing the Schedule
  - iii. Administrative Charge
  - vi. FRC Credit for deficit and distribution debt service
  - v. Phasing
  - vi. Fixture Units Explanation
  - vii. Debt Service
- c. Review and propose changes to Part 5 Section III Water System Development Fee
- d. Community Response from Water System Development Fee (WSDF) presentations

Chair Dill commented that some of these items have been addressed in previous meetings.

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**Re: Finance Committee Report to the Board Regarding Rate Increase Deferral**

Manager Craddick commented that a concern given in another committee report gave an appearance if the WSDF (Water System Development Fee) was not implemented, DOW would be in financial trouble in the first half of the year should not being interpreted that way. There are enough monies in the BAB (Build American Bond) to pay the debt service for this fiscal year. The first payment next year can be made, after FY 14 is where there will be financial trouble.

*Manager Craddick gave a proposed committee report as follows:*

Your Manager and staff are recommending to the Finance Committee deferral of the proposed rate increase from July 1, 2013 until January 1, 2014 with no changes to subsequent year rates based on the FY 14 budget as proposed.

We have gone through the budget and have found revenues are sufficient to cover all requested operating costs, debt service and proposed cash funded capital costs. In addition, the next year and the final one for the emergency reserve fund and the first set aside to fund the debt reserve are also budgeted. There will also be a drop this year of about 8.7% in the BAB interest subsidy reported by the bond counsel. We expect this to be made up in the 2014 fiscal budget but will have to closely monitor what is going on. There were \$21 million in projects proposed for 2013 and \$10 million are underway with \$11 million being proposed in fiscal year 2014. We find the projects that were the basis of raising the rates in the last rate study have not been implemented at this time.

Estimated \$2.2M in revenues will not be collected if the rates are deferred for one (1) year. We are not recommending one year deferral at this time. The Manager and staff are recommending a half year deferral of the rates in light of the projects not moving forward as anticipated. Based upon actual revenue receipts as of March 31, 2013, an increase in estimated revenue collections for FY 2013 is higher than projected while projected revenues in FY 2014 shows a minimal increase of \$100K only. Although the proposed six months deferral of rate increase is estimated to bring in \$1.1M in additional revenues, the decrease in power cost adjustment is estimated at \$0.65M decrease leaving a net \$0.45M of additional revenues in FY 2014.

In light of an expected \$2.5 million payment of debt service from the FRC fund when currently just over \$1 million is collected from the FRC the Department could see a shortfall and caution has been voiced by the Manager and staff.

Your committee finds that Department of Water (DOW) will be short of expansion debt payment funds if the proposed new expansion fees are not implemented to pay for the expansion projects that were debt financed in anticipation of new customers. In the event interfund borrowing is required, there is a Capital replacement reserve over \$5 million that could be used for interfund loan purposes on a temporary basis.

Alternatively the Board could defer the expansion related projects and do more replacement projects with the BAB funds to reduce FRC related expenses. The Manager has concerns because the expansion related projects are non-recurring projects and are better able to support debt financing than replacement projects which will occur every year. The latest water rate study did not

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contemplate high levels of debt for replacement projects that would need to be funded through water rates.

Your committee recommends the deferral of rates for one-half (1/2) year. The debt payments for the BAB are in August 2013 and February 2014.

DISCUSSION:

Manager Craddick explained to Mr. Dill that with the added \$2.5M debt service payment, the DOW has \$3M of which as \$1.9M of that will be the BAB expansion portion of payment for this year leaving \$1.1M for next year.

Waterworks Controller, Ms. Marites Yano confirmed that at the end of March 2013, the DOW has about \$2,495,227 in the FRC fund with the \$1.9M payment expectation already made. On Tab 14 page 2 of the proposed FY 2014 budget, the DOW has estimated to receive \$1.5M FRC payments in FY 2014. This FY14 budget is assuming the WSDF is in place by July 2013.

Chair Dill questioned some of the possible the impacts on the implementation date being October 2013 versus the Budget reflecting a 100% implementation in July 2013.

Mr. Nakaya also commented to Manager Craddick that the FY 2014 budget may be under funded with the assumption that the WSDF is implemented for this upcoming fiscal year.

Manager Craddick explained that it would not make a difference except maybe to cut 25% if we use a straight line reduction in funds otherwise it is hard to predict what will happen.

With the unknowns, Chair Dill feels reluctant to implement the rate deferral and questioned if the DOW would have the ability to implement \$10 M worth of projects in the upcoming fiscal year.

DOW Civil Engineer, Mr. Aaron Zambo responded that there are 4 or 5 projects that are on the back burner because the DOW has not had the budget to do them. The DOW has not selected the consultants for the projects.

The Finance Committee was given a list of DOW's CIP projects and the status of where the projects are currently at.

Manager Craddick mentioned that during the rate study, the DOW explained that X amount of projects were going to be sent out, but didn't. He recommended that he is okay with the Finance Committee leaving the rate schedule as is. When the rate schedule was approved, it was with the stipulation that the projects would move forward, but if the projects didn't move forward, the Board may consider deferring the rate for the following year.

Mr. Nakaya asked Manager Craddick if the DOW is moving forward on these projects within the next fiscal year with the understanding that if the rates implement as scheduled, the reserve gets bigger.

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Manager Craddick agreed and explained that the projects have a process of getting approvals from other agencies besides the DOW, with this, the process may take longer. The recommendation of leaving the rate schedule as is would continue to keep the revenues that will generate for the future to do the jobs that got deferred and still there needing to be done.

Chair Dill agreed that if the DOW does not defer the scheduled rate increase, to apply the appropriate encouragement to the DOW to get the projects out to spend the money in a timely manner. It was also requested that the rate schedule implement as planned and the Board would look at it again for the next plan rate increase in July 2014 to see if it is appropriate for a deferral. Chair Dill expressed that there is a difference between “too high” of a reserve and the “right amount,” but would rather feel more comfortable with some cash reserves in place.

As the Waterworks Controller for the DOW, Ms. Yano also agreed that she is in favor with Mr. Dill’s recommendation and feels comfortable with the implementation as scheduled because it would be better to make sure the DOW reserves are funded. By not deferring is a more conservative approach for the DOW.

Mr. Nakaya moved to take no action and implement the rate increase as scheduled subject to be reviewed in FY 2014-2015, with no objections; motion was carried.

Chair Dill thanked the DOW for working together regarding the possibility of a potential rate deferral and acknowledges that it was a lot of work.

Manager Craddick reported that he will come back to the board to provide the scenarios that were asked for from the last Finance Committee meeting.

**Re: Finance Committee Report to the Rules Committee:**

Manager Craddick read out loud, the Finance Committee’s report to the Rules Committee:

The Finance Committee has reviewed your proposed language for Part 5 Section III and returns it with approved changes to eliminate the fire charge. Although there is nothing in the fee for fire protection costs and it makes sense to charge for this, there is no independent study at this time, which would protect the Board, backing any proposed charge. The Finance Committee will be recommending to the full Board to include fire charges in the next study along with staff costs to implement the expansion projects, both of which were not a part of the present study.

The Finance Committee is forwarding the current draft of its proposed recommendation. The schedule allows indexing according to the Engineering News Record construction cost index not to exceed 4% per year on average from the date of approval. This should prevent future large jumps in the WSDF.

The Finance Committee does cover administrative costs with a charge at two dollars per fixture unit for review of water requests. This is a very low cost and will not cover DOW’s administrative costs in this endeavor. There is some question if this is the appropriate place for this administrative charge or whether staff should implement it with other administrative charges.

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We have also approved the schedule as proposed by our consultant attached to this submittal. The schedule allows determination of the fee by fixture units, per gallon charge, or increasing up from 5/8" to 2" size according to AWWA standard C-700-95 for Cold Water Meters-Displacement type meter size ratio which DOW meters are currently comprised of. There is an allowance to use similar fee determination methodology for future meter types if different from the Badger meters currently used.

For meter sizes larger than 2" we have left the fee determination to staff based on the consultants recommendations and have inserted a schedule for AWWA standard C-702 for Cold Water Compound Type Class II meters based on the consultant's schedule for fixture units and per gallon cost. There are too many other types of meters which could be used and would make the schedule unnecessarily confusing to list them all. The class I and class II compound meters are the meter types most commonly used. The difference in this schedule is it is a fee not to exceed as the range of fixture units is too large and depending on the expected use may require different meter sizes with the same number of fixture units because of peak demands.

The finance committee expects the rules will provide any further clarification needed for the methodology allowed. These are primarily commercial meters and have very large ranges of use and find it not appropriate to list a cost per meter as staff currently uses other methodology such as fixture units or equivalent 5/8" units. DOW has less than 150 meters total in this range of sizes and do not feel it is appropriate to limit the Manager and staff application of engineering standards and practices to determine a proper WSDF that is commensurate with demand required.

The schedule also has a provision for services charged for a certain amount of water that goes over the allotted per day gallon usage in 100 gallon increments for more than a year to be charged the difference in development fee spread over five years or 60 months as long as the meter size is still appropriate for the application. For example if a meter used 100 gpd over the allotment for one year,  $(100 \times 1.5 \times \$22.83/60)$  they would see a \$57 per month surcharge on their water bill for five years or until the use went back below their allotment.

The Finance Committee has had testimony from the County Housing Department requesting waiver of fees. There is nothing in the schedule to waive fees. The Finance Committee believes proper application of the fixture units will not over charge affordable projects and as long as there is a provision to direct grants funds toward affordable project offsets the concern raised will be addressed.

The schedule has the allotted amount of water on an average day basis for the meter sizes up to 2" using the maximum fixture units. Should fixture units be allowed for meter sizes 2" and smaller language would need to be added to show how water use would be adjusted in the event of over use. Please inform the Finance Committee of the Rules Committees allowance or not of using fixture units for sizing of meters 2" and smaller so it may make that change.

While the Finance Committee understands DOW will not be able to charge a second fee for the same meter size for water used over the allotment it believes the difference may be charged to specific accounts in usage charges that are transferred to the expansion fund. Should the Rules

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Committee move in this direction the Finance Committee will make necessary changes to the schedule to address use over the allotted amount for 2" and smaller meters.

The last major issue discussed was phasing. In light of the current financial condition of the FRC fund balance the Boards fiduciary responsibility and proposed projects which would utilize bond debt the Finance Committee cannot recommend phasing at this time. The fact is water that is currently available and provided by developers which DOW would have to develop and provide back can be used to some extent. That DOW "appropriated" water given now could all be taken at the lowest rate. The Finance Committee cannot recommend a lower cost while there is no limit on the amount of water any one developer can request.

Should the Rules Committee see fit to limit the amount of water any one developer can request to a time after the full fee is applicable the schedule may be able to be phased in over time. It would take further deliberations on the part of the Finance Committee to make a phasing determination once rules were determined which regulate the amount of water anyone developer can request. There may also be a legal issue to treat some areas differently since the Board has accepted the concept of one benefit zone and is planning to go to public hearing on this.

Attached is a current copy of the Rules Section VII – Water System Development Fee (WSDF) schedule to be proposed to the Full Board subject to any further recommendation from the Rules Committee.

**Attached documents:**

Attachment 1:

DEPARTMENT OF WATER  
County of Kauai's

*"Water has no Substitute – Conserve It!"*

April 4, 2013 *(rev from February 5, 2013)*

**Re: Request for the Rules Committee to make the proposed changes to Part 5 Section III of the Rules**

**BACKGROUND:**

The Department has been working with the Rules Committee on a Part 5 Water System Development Fee Section III. The WSDF Fee schedule was referred to the Finance Committee on the November 29, 2012 Rules Committee meeting for the committee's review and comment. It is recommended to add the double underlined sentence.

Part V Section III is stated as follows:

**Section III: WSDF Fee Schedule**

- A. The WSDF imposed shall be as set forth in the WSDF Schedule, in Part IV of the Department Rules. The WSDF Schedule was created in accordance with a report prepared by an independent consultant as adopted by the Board for the purposes of WSDF assessment. The report calculated the costs associated with water development needs as laid out in the Department of Water facilities needs assessment study entitled "Water Plan 2020" as amended. An fire charge and administrative charge is are also required.

Thank you for your attention to this matter.

Respectfully Submitted,



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Attachment 2:

**DEPARTMENT OF WATER**  
County of Kaua'i

*"Water has no Substitute – Conserve It!"*

Administrative rule material to be repealed is bracketed. **New material is underscored.** Deleted material is ~~stricken through~~ or [bracketed.] In printing this rule amendment, the brackets, bracketed material, underscoring, strikes need not be included

**PART 4 SECTION VII – FACILITIES RESERVE CHARGE WATER SYSTEM DEVELOPMENT FEE**

~~1. — The water system facilities reserve charge shall be assessed against all new developments and subdivisions requiring supply of water from the County of Kauai, Department of Water, and existing developments requiring additional supply of water from the Department's system. The facilities reserve charge must be paid before water services are made available to the new or existing development.~~

**1. The Water System Development Fee will be raised or lowered each year according to the percentage increase or decrease in the Engineering News Record Construction Cost Index change over previous year index held as the base. This shall not increase more than four percent average per year determined from the effective date of this rule.**

~~2. — The water system facilities reserve charge shall be paid by all applicants for water service, including but not limited to the following:~~

~~a. — All irrigation services and/or meters.~~

~~b. — Additional buildings to be connected to existing services where additional demands or supplies are indicated. The charges shall be based on the meter sizes required if the buildings were metered separately.~~

~~c. — Additional units connected to existing services and meters under the categories of single family and multi-family residential units. The charges will be based on the established schedule of charges for the respective categories.~~

**2. The Water System Development Fee shall be determined from the following Schedule 1: Schedule 1**

	<u>\$ per Fixture Unit</u>	<u>\$ per gallon</u>	<u>\$ per 5/8" meter</u>	<u>MAXIMUM PERCENTAGE*</u>
<u>SOURCE</u>	<u>\$104.00</u>	<u>\$4.15</u>	<u>\$3,120</u>	<u>18%</u>
<u>STORAGE</u>	<u>\$196.00</u>	<u>\$7.86</u>	<u>\$5,880</u>	<u>34%</u>

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<u>TRANSMISSION</u>	<u>\$272.00</u>	<u>\$10.87</u>	<u>\$8,160</u>	<u>48%</u>
<u>TOTAL</u>	<u>\$572.00</u>	<u>\$ 22.88</u>	<u>\$17,160</u>	<u>100%</u>

\* Maximum Offset Percentage allowed when developer provides all of source, storage or transmission capacity according to DOW standards. For developments providing less than 100% of source, storage or transmission capacity according to Hawaii Water Standards 2002 as amended the maximum percentage listed in the schedule for offset will be reduced according to Part 5 rules.

3. — The water system facilities reserve charges shall apply to all applicants for water service as follows:

- a. — For each parcel created by subdivision, including the first lot created; and for every new single family residential dwelling unit not yet metered and a facilities reserve charge has not yet been paid, the charge shall be \$4,600.00.
- b. — For each unit or hotel room in a multi-family residential development and/or resort development, which applies to each unit or hotel room, the charge shall be \$4,600.00.
- e. — For all other uses, the facilities reserve charge shall be determined by the size of the meter as follows:

<u>Meter Size</u>	<u>Amount</u>
5/8"	\$ 4,600.00
3/4"	\$ 14,300.00
1"	\$ 26,400.00
1 1/2"	\$ 53,200.00
2"	\$ 90,700.00
3"	\$ 170,000.00
4"	\$ 283,400.00
6"	\$ 566,800.00
8"	\$ 907,000.00

Meter sizes shall be determined by the Department and not by the Developer or Applicant. The facilities reserve charge for multi-family and/or resort development will be determined by the approved meter size or the number of units, whichever number is larger. Facilities reserve charges are periodically adjusted by the Department. These adjustments may increase or decrease existing facilities reserve charge amounts. Where adjustments to facilities reserve charges result in decreases of such charges, no refund will be made of the difference between the higher, pre-existing charges and the lower, adjusted charges.

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**3. a. For meter sizes up to two inch the water system development fee will increase according to the AWWA Standard C-700-latest edition for Cold Water Meters-Displacement type, Bronze Main Case Recommended Maximum Rate for Continuous operations gpm flow rate ratio of larger sizes to the 5/8” meter which is as follows in Schedule 2:**

**Schedule 2**

<b>SIZE</b>	<b>GPM</b>	<b>Ratio to 5/8”</b>	<b>Maximum meter cost</b>	<b>FixU Range of use</b>	<b>Yearly use/365 not to exceed Gallons**</b>
<b>5/8 “</b>	<b>10</b>	<b>1</b>	<b>\$ 17,160</b>	<b>15-30</b>	<b>500 gallons</b>
<b>3 / 4”</b>	<b>15</b>	<b>1.5</b>	<b>\$ 25,740</b>	<b>31-45</b>	<b>750 gallons</b>
<b>1”</b>	<b>25</b>	<b>2.5</b>	<b>\$ 42,900</b>	<b>46-120</b>	<b>1,250 gallons</b>
<b>1 1/2”</b>	<b>50</b>	<b>5</b>	<b>\$ 85,800</b>	<b>121-250</b>	<b>2,750 gallons</b>
<b>2”</b>	<b>80</b>	<b>8</b>	<b>\$137,280</b>	<b>251-700</b>	<b>4,000 gallons</b>

**\*\* When the maximum number of fixture units are installed this column shows the average day gallons allowed for the maximum number of fixture units. When lower numbers of fixture units are approved by DOW the average use will be reduced in accordance with the reduction in fixture units.**

**b. For meter sizes beyond two inch the water system development fee will be determined by the application of engineering principles and standards. For AWWA Standard C-702-latest edition for Cold-Water Meters- Compound Type Class II given as a reference type of meter the fee shall not to exceed schedule 3:**

**Schedule 3**

<b>SIZE</b>	<b>Max cont. GPM</b>	<b>Meter cost not to exceed</b>	<b>FixU Range of use</b>	<b>Yearly use/365 not to exceed Gallons**</b>
<b>3 “</b>	<b>175</b>	<b>\$ 5,720,100</b>	<b>701-10,000</b>	<b>166,670 gallons</b>
<b>4”</b>	<b>300</b>	<b>\$ 9,884,160</b>	<b>5,000-17,280</b>	<b>288,000 gallons</b>
<b>6”</b>	<b>675</b>	<b>\$ 22,239,360</b>	<b>8,500-38,880</b>	<b>648,000 gallons</b>
<b>8”</b>	<b>900</b>	<b>\$ 29,652,480</b>	<b>15,500-51,840</b>	<b>864,000 gallons</b>

**\*\* When the maximum number of fixture units are installed this column shows the average day gallons allowed for the maximum number of fixture units. When lower numbers of fixture units are approved by DOW the average use will be reduced in accordance with the reduction in fixture units.**

**4. FRC Offsets:**

**a. Definitions and construction of words. As used in this paragraph 4, the following definitions shall apply:**

**“Applicant” means any person, individual, corporation, partnership, business, organization, association, or other entity whatsoever that applies for water service from the Department.**

**“Consumer” has the meaning ascribed to it under Section I of Part 2 of the Department’s Rules and Regulations.**

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~~“FRC” means the facilities reserve charges described in section VII of Part 4 and Section III of Part 3 of the Department’s rules.~~

~~“Offset” means reduced or reduction.~~

~~“Subdivider” has the meaning ascribed to it under section I of Part 3 of the Department’s Rules and Regulations.~~

~~“Subdivision” has the meaning ascribed to it under section I of Part 3 of the Department’s Rules and Regulations.~~

~~“Water transmission main” or “main” means a main extension under Paragraph 2.d [2.a.(4)] of Section II of Part 2 of the Department’s Rules and Regulations.~~

~~As used in this Paragraph 4, the following rules of construction shall apply:~~

~~Number. Words in the singular or plural number signify both the singular and plural number.~~

~~"Or", "and". Each of the terms "or" and "and", has the meaning of the other or of both.~~

- ~~b. When an applicant, consumer, or subdivider is required to construct and dedicate water source or water storage facilities, or water transmission mains, to the Department, the following rules shall apply:~~

~~Subject to the provisions of this paragraph 4, the applicable FRC liability of such applicants, consumers, or subdividers shall be offset by up to 33% each where water source or water storage improvements are constructed, and up to 50% where water transmission mains are constructed; provided that the total amount of all offsets that an applicant, consumer, or subdivider receives shall not exceed 100% of the applicant’s, consumer’s, or subdivider’s FRC liability, and provided further that the offset for any source or storage improvement or transmission main shall not exceed the actual cost of the source or storage improvement or transmission main.~~

~~The Department, and not the applicant, consumer, or subdivider, shall calculate and determine the total amount of an applicant’s, consumers, or subdivider’s FRC offset in any given case. The Department may require the applicant, consumer, or subdivider to submit documentation verifying the actual cost of a source or storage improvement or transmission main.~~

- ~~e. The offsets described in this Paragraph 4 “FRC Offsets” shall not apply to water transmission mains constructed by a subdivider, applicant or consumer which are within or adjacent to a subdivision or lands either 1) owned by the applicant or consumer, or 2) developed by the applicant or consumer for uses such as, but not limited to, residential, agricultural, commercial, resort, industrial, governmental,~~

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~~religious, or educational uses. Where water transmission mains are constructed within, adjacent to, or outside of such subdivisions or lands, the offsets shall apply only to mains constructed outside of and off site from such subdivisions or lands."~~

4. When average day use exceeds the allowable use listed in the water service request a system expansion surcharge will be added to the monthly water bill until the average use drops below the allowed average day use or a larger meter is allowed and a water service request to upsize the meter is approved. The system expansion surcharge will be the difference in WSDF of the new demand and the demand paid for in average 100 gallon per day increments with the water service request divided by 60.

5. Should the Department use meters different than the meters currently used by the Department, the same methodology for WSDF determination shall be used for other meters approved by the Department.

6. The administrative charge for review of Water Requests is \$2 per fixture unit as defined by the Uniform Plumbing Code latest edition. This same definition for fixture unit will be used for the schedule above as adjusted by Department staff for low flow devices which are built as part of the structure and are not easily changed to high flow devices.

7. Fix U's are the fixture units determined by application of the Uniform Plumbing code as adjusted for low flow devices that are built into the structure.

Attachment 3:

authorized to use per Scott Lewis  
1-212-904-3507  
contacted 4/10/13

**ENR** 1Q COST REPORT INDEXES

By Tim Grogan

## How To Use ENR's Indexes

Explaining the difference between the construction and building cost indexes

**R**eaders of ENR generate a steady stream of questions about the magazine's indexes and how to accurately apply them to construction projects. To help clarify the nature and use of the cost indexes, here are answers to the most frequently asked questions as well as suggestions on how to avoid costly mistakes when using the indexes.

**What is the difference between ENR's Construction Cost Index and its Building Cost Index?**

The difference is in their respective labor components. The CCI uses 200 hours of common labor, multiplied by the 20-city average rate for wages and fringe benefits. The BCI derives its calculation from a baseline of 68.18 hours of skilled

cement priced locally and 1,088 board-ft of 2x4 lumber, which is also priced locally. The ENR indexes measure how much it costs to purchase this hypothetical package of goods compared to the price in the base year.

**What kinds of construction are represented by the ENR indexes?**

The two indexes apply to general construction costs. The CCI can be used when labor costs are a high proportion of total costs. The BCI is more applicable for structures.

**Where does ENR get its data?**

ENR has price reporters who check prices locally in 20 U.S. cities. The prices are quoted from the same suppliers each month. ENR computes its latest indexes

Report includes the most comprehensive listing of international costs.

**Are materials prices averaged?**

No. ENR reporters collect spot prices from a single source for all the materials tracked, including those in the index. The reporters survey the same suppliers each month for materials that affect the index. Actual prices within a city may vary depending on the competitiveness of the market and local discounting practices. This method allows for a quick indicator of price movement, which is the primary objective of both indexes.

**Do the indexes measure cost differentials between cities?**

No. This is one of the more common errors in the application of ENR's in-

Attachment 3 cont'd:

One city may report list prices, while another city may include discounts in its reported price for the same material.

**Are the cost indexes seasonally adjusted?**

No. This is an important point for users of the indexes to keep in mind. Wages, the most important component, usually affect the indexes once or twice a year. Cement prices tend to be more active in the spring, while pricing for fabricated structural steel tends to have monthly adjustments. Lumber prices, which are more dependent on local pricing and production conditions, are the most volatile and can change appreciably from month to month. Declines in the indexes are most often the result of falling lumber and steel prices.

The study of an index movement for a period of less than 12 months can sometimes miss these important developments. Users of an index for individual cities should also watch the timing of wage settlements. Stalled labor negotiations may keep the old wage rate in effect longer than a 12-month period, giving the appearance of a low inflation rate.

**Is it more accurate to use an index that is closest to my home city?**

No. The 20-city average index is generally more appropriate. Because that

index has more elements, it has a smoother trend. Indexes for individual cities are more susceptible to price spikes.

**Are annual averages weighted?**

No. They are straight mathematical averages.

**Are the indexes verifiable?**

Yes. In the Construction Economics section, ENR's national indexes are updated in the first week of each month, while the indexes for individual cities appear in the second issue of each month.

Prices for the indexes' materials components can be found in the preceding month's Construction Economics pages: Cement prices appear in the first issue, lumber prices in the third issue and steel in the fourth issue. Wage rates for all 20 cities are published in the Third Quarterly Cost Report. Readers can compute ENR's indexes by multiplying the published prices and wages by the appropriate weights (shown in the tables below) and summing the results.

**Does ENR forecast its indexes?**

Yes. Once a year, ENR projects its BCI and CCI for the next 12 months in the Fourth Quarterly Cost Report. To reach its forecast, ENR incorporates the new wage rates called for in multiyear, collective-bargaining agreements and estimates for the cities in which new contract terms

will be negotiated.

Further, ENR estimates the materials component by studying consumption forecasts as well as price trends.

**Does ENR change the weighting of the index components?**

No. The components are always multiplied by the same factors. However, a component's share of an index's total will shift with its relative escalation rate.

**Has ENR ever changed the makeup of the index components?**

Only once, in 1996. ENR was forced to switch from the mill price for structural steel to the 20-city average fabricated price for channel beams, I-beams and wide flanges when ENR's two sources for mill prices left the structural market.

**Does ENR revise the indexes?**

Yes. On some occasions, ENR must revise the indexes. For example, ENR revised its March 2004 indexes shortly after their initial publication to reflect the huge surcharges being placed on structural steel. Any revisions to national indexes are published below. Any revisions to indexes for individual cities are published in the cost report at ENR.com.

**Is ENR's cost data on the web?**

Yes. All ENR's cost indexes, wage rates, material prices and cost-issue articles can be found at ENR.com. ■

**CONSTRUCTION COST INDEX HISTORY (1926-2013)**

ENR ENR BUILDS THE INDEX: 200 hours of concrete labor at the 20-city average concrete-labor wage rates, plus 75 out of standard structural steel shapes at the mill price plus in 1926 and the fabricated 20-city price from 1936, plus 1,221 tons of portland cement at the 20-city price, plus 1,250 board ft of 2x lumber at the 20-city price.

ANNUAL AVERAGE, 1926-1935			APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ENR'S COST INDEX				
1926: 706	1946: 477	1972: 1743	1936	5443	5444	5435	5432	5433	5422	5484	5500	5491	5511	5519	5524	5471
1927: 706	1946: 518	1972: 1991	1936	5573	5537	5537	5550	5572	5587	5617	6652	5583	5719	5740	5794	5820
1928: 707	1947: 543	1973: 2070	1937	5763	5739	5759	5789	5837	5880	5863	6854	5851	5948	5936	5958	5920
1929: 707	1947: 568	1973: 2212	1938	5852	5874	5875	5883	5881	5895	5921	6929	5963	5985	5986	5991	5920
1930: 703	1948: 600	1973: 2421	1939	6008	5987	5986	6008	6005	6029	6078	6981	6128	6134	6127	6127	6050
1931: 701	1948: 628	1973: 2676	1940	6129	6108	6102	6101	6123	6158	6225	6933	6224	6216	6266	6283	6221
1932: 701	1949: 660	1973: 2900	1941	6261	6272	6279	6286	6288	6318	6404	6389	6391	6397	6410	6390	6334
1933: 700	1949: 724	1973: 3227	1942	6452	6452	6502	6480	6512	6522	6625	6522	6589	6579	6578	6563	6538
1934: 700	1949: 759	1973: 3535	1943	6581	6640	6627	6635	6642	6654	6696	6733	6741	6771	6794	6782	6695
1935: 700	1949: 824	1973: 3900	1944	6825	6801	6827	7017	7004	7109	7126	7186	7299	7314	7312	7308	7110
1936: 700	1949: 847	1973: 4148	1945	7097	7208	7309	7355	7358	7415	7422	7479	7540	7583	7630	7607	7448
1937: 700	1949: 872	1973: 4487	1946	7350	7369	7392	7566	7601	7760	7721	7722	7763	7863	7911	7888	7751
1938: 700	1949: 901	1973: 4936	1947	7640	7660	7676	7865	7942	7939	7926	8037	8050	8045	8092	8089	7967
1939: 700	1949: 938	1973: 5406	1948	8000	8004	8109	8112	8141	8185	8293	8362	8367	8623	8602	8591	8310
1940: 700	1949: 977	1973: 5919	1949	8549	8523	8534	8529	8574	8578	8566	8564	8585	8596	8592	8641	8520
1941: 700	1949: 1024	1973: 6472	1950	8660	8672	8671	8677	8761	8805	8844	8837	8836	8821	8851	8852	8790
1942: 700	1949: 1100	1973: 7033	1951	8920	8908	9011	9027	9035	9033	9080	9088	9116	9047	9173	9172	9070
1943: 700	1949: 1200	1973: 7695	1952	9176	9198	9268	9273	9290	9294	9324	9351	9341	9376	9358	9412	9358
1944: 700	1949: 1301	1973: 8436	1953	9437	9463	9494	---	---	---	---	---	---	---	---	---	---

Finance Committee Meeting  
April 25, 2013

Attachment 4:

American Water Works Association

**ANSI/AWWA C702-01**

(Revision of ANSI/AWWA C702-92)



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**AWWA STANDARD**  
FOR  
**COLD-WATER METERS—COMPOUND TYPE**



*Effective date: June 1, 2001.*

*First edition approved by AWWA Board of Directors May 24, 1993.*

*This edition approved January 21, 2001.*

*Approved by American National Standards Institute March 21, 2001.*

**AMERICAN WATER WORKS ASSOCIATION**

6666 West Quincy Avenue, Denver, Colorado 80235

Finance Committee Meeting  
April 25, 2013

Attachment 4 cont'd:

8 AWWA C702-01

4.2.2 *Capacity.* The nominal capacity ratings and the related pressure-loss limits shall be as shown in Table 1 for the safe maximum operating capacities.

4.2.3 *Length.* Maximum overall length of the meters, face-to-face of spuds or flanges, shall not be greater than those shown in Table 2. A flanged spool may be used to increase the length of a shorter meter to meet this requirement.

4.2.4 *Pressure requirement.* Meters supplied according to this standard shall operate without leakage or damage to any part at a working pressure of 150 psi (1,050 kPa).

4.2.5 *Interior parts.* Meters shall be designed for easy removal of all interior parts without disturbing connections to the pipeline.

4.2.6 *Registration accuracy.* Meters shall meet the following requirements for accuracy with water at a temperature less than 80°F (27°C).

4.2.6.1 *Normal flow rate.* The class I compound meter shall register not less than 97 percent and not more than 103 percent of the water actually passed through it at any flow rate within the normal test flow-rate limits specified in Table 1, except

*compound*

Table 1 Operating characteristics class I

Meter Size		Safe Maximum Operating Capacity		Maximum Flow Rate for Continuous Duty		Maximum Allowable Loss of Head at Safe Maximum Operating Capacity		Normal Test Flow-Rate Limits		Minimum Test Flow Rates	
in.	(mm)	gpm	(m <sup>3</sup> /h)	gpm	(m <sup>3</sup> /h)	psi	(kPa)	gpm	(m <sup>3</sup> /h)	gpm	(m <sup>3</sup> /h)
2	(50)	160	(36)	80	(18)	20	(140)	2-160	(0.45-36)	¼	(0.06)
3	(80)	320	(72)	160	(36)	20	(140)	4-320	(0.90-72)	½	(0.11)
4	(100)	500	(110)	250	(55)	20	(140)	6-500	(1.4-110)	¾	(0.17)
6	(150)	1,000	(220)	500	(110)	20	(140)	10-1,000	(2.3-220)	1 ½	(0.34)
8	(200)	1,600	(360)	800	(180)	20	(140)	16-1,600	(3.6-360)	2	(0.45)

Table 1.1 Operating characteristics class II

Meter Size		Safe Maximum Operating Capacity		Maximum Flow Rate for Continuous Duty		Maximum Allowable Loss of Head at Safe Maximum Operating Capacity		Normal Test Flow-Rate Limits		Minimum Test Flow Rates	
in.	(mm)	gpm	(m <sup>3</sup> /h)	gpm	(m <sup>3</sup> /h)	psi	(kPa)	gpm	(m <sup>3</sup> /h)	gpm	(m <sup>3</sup> /h)
2	(50)	160	(36)	80	(18)	15	(103)	1-160	(0.23-36)	¼	(0.06)
3	(80)	350	(79)	175	(40)	15	(103)	2-350	(0.45-79)	½	(0.12)
4	(100)	600	(136)	300	(68)	15	(103)	3-600	(0.68-136)	¾	(0.17)
6	(150)	1,350	(307)	675	(153)	15	(103)	5-1,350	(1.1-307)	1 ½	(0.34)
8	(200)	1,600	(360)	900	(204)	15	(103)	16-1,600	(3.6-360)	2	(0.45)

Finance Committee Meeting  
April 25, 2013

Attachment 5:



**American Water Works  
Association**

The Authoritative Resource for Safe Water®

ANSI/AWWA C704-08  
(Revision of ANSI/AWWA C704-02)

9 JUN -8 11:52

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*AWWA Standard*

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# Propeller-Type Meters for Waterworks Applications



Effective date: Nov. 1, 2008.  
First edition approved by AWWA Board of Directors July 21, 1949.  
This edition approved Jan. 27, 2008.  
Approved by American National Standards Institute Sept. 17, 2008.

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Advocacy  
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Science and Technology  
Sections

Finance Committee Meeting  
April 25, 2013

Attachment 5 cont'd:

*Propeller*

Table 1 Operating characteristics

Meter Size		Safe Maximum Operating Capacity*		Maximum Loss of Head at Safe Maximum Operating Capacity		Maximum Rate for Continuous Operation		Normal Test Flow Limits†	
in.	(mm)	gpm	(m <sup>3</sup> /hr)	psi	(kPa)	gpm	(m <sup>3</sup> /hr)	gpm	(m <sup>3</sup> /hr)
2	(50)	120	(27)	5.00	(34.0)	100	(23)	45-100	(10-23)
3	(80)	300	(68)	5.00	(34.0)	250	(57)	80-250	(18-57)
4	(100)	600	(135)	2.00	(14.0)	500	(110)	85-500	(19-110)
6	(150)	1,350	(300)	1.00	(7.0)	1,200	(270)	160-1,200	(36-270)
8	(200)	1,800	(405)	0.50	(3.5)	1,500	(340)	190-1,500	(43-340)
10	(250)	2,400	(545)	0.50	(3.5)	2,000	(450)	260-2,000	(59-450)
12	(300)	3,375	(765)	0.50	(3.5)	2,800	(640)	275-2,800	(62-640)
14	(350)	4,500	(1,020)	0.50	(3.5)	3,750	(850)	350-3,750	(79-850)
16	(400)	5,700	(1,295)	0.50	(3.5)	4,750	(1,080)	450-4,750	(102-1,080)
18	(450)	6,750	(1,530)	0.25	(1.7)	5,625	(1,280)	550-5,625	(125-1,280)
20	(500)	8,250	(1,875)	0.25	(1.7)	6,875	(1,560)	650-6,875	(148-1,560)
24	(600)	12,000	(2,725)	0.25	(1.7)	10,000	(2,270)	1,000-10,000	(227-2,270)
30	(750)	18,000	(4,090)	0.25	(1.7)	15,000	(3,400)	1,600-15,000	(363-3,400)
36	(900)	24,000	(5,450)	0.25	(1.7)	20,000	(4,540)	2,400-20,000	(545-4,540)
42	(1,050)	40,000	(9,090)	0.10	(0.7)	28,000	(6,360)	2,800-28,000	(636-6,360)
48	(1,200)	50,000	(11,350)	0.10	(0.7)	35,000	(7,950)	3,500-35,000	(795-7,950)
54	(1,350)	55,000	(12,500)	0.10	(0.7)	45,000	(10,200)	5,000-45,000	(1,140-10,200)
60	(1,500)	80,000	(18,180)	0.10	(0.7)	60,000	(13,600)	6,000-60,000	(1,360-13,600)
66	(1,650)	95,000	(21,590)	0.10	(0.7)	75,000	(17,000)	7,500-75,000	(1,700-17,000)
72	(1,800)	115,000	(26,100)	0.10	(0.7)	90,000	(20,400)	9,000-90,000	(2,040-20,400)

\*As shown for use 10 percent to 15 percent of total time meter is operating (also referred to as "intermittent maximum flow").

†Also referred to as "normal flow limits."

PROPELLER TYPE METERS FOR WATERWORKS APPLICATIONS 7

Attachment 6:



American Water Works Association

The Authoritative Resource on Safe Water®

ANSI/AWWA C701-07  
(Revision of ANSI/AWWA C701-02)

7 SEP -4 11:40

DEPT. OF WATER

*AWWA Standard*

Cold-Water Meters—  
Turbine Type, for  
Customer Service

Finance Committee Meeting  
April 25, 2013

Attachment 6 cont'd:

8 C701-07

Table 1 Operating characteristics

*Turbine meters*

Nominal Meter Size	Safe Maximum Operating Capacity		Maximum Rate for Continuous Duty		Maximum Loss of Head at Safe Maximum Operating Capacity <sup>†</sup>		Normal Test-Flow Limits			
	in.	(mm)	gpm	(m <sup>3</sup> /h)	gpm	(m <sup>3</sup> /h)	psi	(kPa)	gpm	(m <sup>3</sup> /h)
Class I										
Low-Velocity Horizontal Type										
2	(50)	160	(36)	80	(18)	15	(103)	16-120	(3.6-27.0)	
3	(80)	350	(80)	175	(40)	15	(103)	24-250	(5.4-57.0)	
4	(100)	600	(140)	300	(70)	15	(103)	40-400	(9.0-90.0)	
6	(150)	1,250	(280)	625	(140)	15	(103)	80-1,000	(18.0-230.0)	
8	(200)	1,800	(410)	900	(210)	15	(103)	140-1,600	(32.0-360.0)	
10	(250)	2,900	(660)	1,450	(330)	15	(103)	225-2,500	(51.0-570.0)	
12	(300)	4,300	(980)	2,150	(490)	15	(103)	400-4,000	(91.0-910.0)	
Vertical-Shaft Type										
3/4	(20)	30	(7)	20	(5)	15	(103)	1.5-30	(0.3-7.0)	
1	(25)	50	(11)	35	(8)	15	(103)	2-50	(0.5-11.0)	
1 1/2	(40)	100	(23)	65	(15)	15	(103)	3-100	(0.7-23.0)	
2	(50)	160	(36)	100	(23)	15	(103)	4-160	(0.9-36.0)	
3	(80)	350	(80)	220	(50)	15	(103)	6-350	(1.4-79.0)	
4	(100)	630	(140)	420	(96)	15	(103)	8-630	(1.8-140.0)	
6	(150)	1,300	(290)	865	(200)	15	(103)	15-1,300	(3.4-290.0)	
Class II—In-Line (High-Velocity) Type										
1 1/2	(40)	120	(27)	90	(20)	7	(48)	4-120	(0.9-27.0)	
2	(50)	190	(43)	160	(36)	7	(48)	4-190	(0.9-43.0)	
3	(80)	435	(99)	350	(80)	7	(48)	8-435	(1.8-99.0)	
4	(100)	750	(170)	650	(150)	7	(48)	15-750	(3.4-170.0)	
6	(150)	1,600	(360)	1,400	(320)	7	(48)	30-1,600	(6.8-360.0)	
8	(200)	2,800	(640)	2,400	(550)	7	(48)	50-2,800	(11.0-640.0)	
10	(250)	4,200	(950)	3,500	(790)	7	(48)	75-4,200	(17.0-950.0)	
12	(300)	5,300	(1,200)	4,400	(1,000)	7	(48)	120-5,300	(27.0-1,200.0)	
16	(400)	7,800	(1,770)	6,500	(1,470)	7	(48)	200-7,800	(45.0-1,770.0)	
20	(400)	12,000	(2,730)	10,000	(2,270)	7	(48)	300-12,000	(68.0-2,730.0)	

\*Safe Maximum Operating Capacity is the maximum flow rate for intermittent service and should not exceed 33 percent usage (8 holiday).

†Does not include strainer, which may be required in some applications. Maximum head loss listed for class II meters is at Maximum Rate for Continuous Duty.

**DISCUSSION:**

Chair Dill thanked Manager Craddick for the background and discussion on the report to the Rules Committee and have this report transmitted to the Rules Committee members.

With no further business, Chair Dill recessed the Finance Committee at 10:07 a.m.

mjg