

Research Facilities Benchmarking: Best Performers – Secrets to Their Success

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The benchmarking process is a continuous improvement process. In this paper we will cover:

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Background

Facility Issues provides benchmarking services to the Research Facilities Benchmarking Group (RFB) and to a variety of clients and professional organizations. We lead several other benchmarking groups such as:

- ❑ Boeing Facilities
- ❑ IFMA's Utility Council
- ❑ Facility Managers Roundtable
- ❑ National Laboratories
- ❑ Nuclear Generating Stations
- ❑ Regional Bell Operating Companies
- ❑ Washington Group – Managed Facilities
- ❑ California County Facility Managers
- ❑ Chicago Roundtable
- ❑ SE Regional Roundtable

In 2005 these groups benchmarked approximately 5750 m.s.f.

Benchmarking Defined

It is very helpful to understand what benchmarking is. In the RFB we define it as...

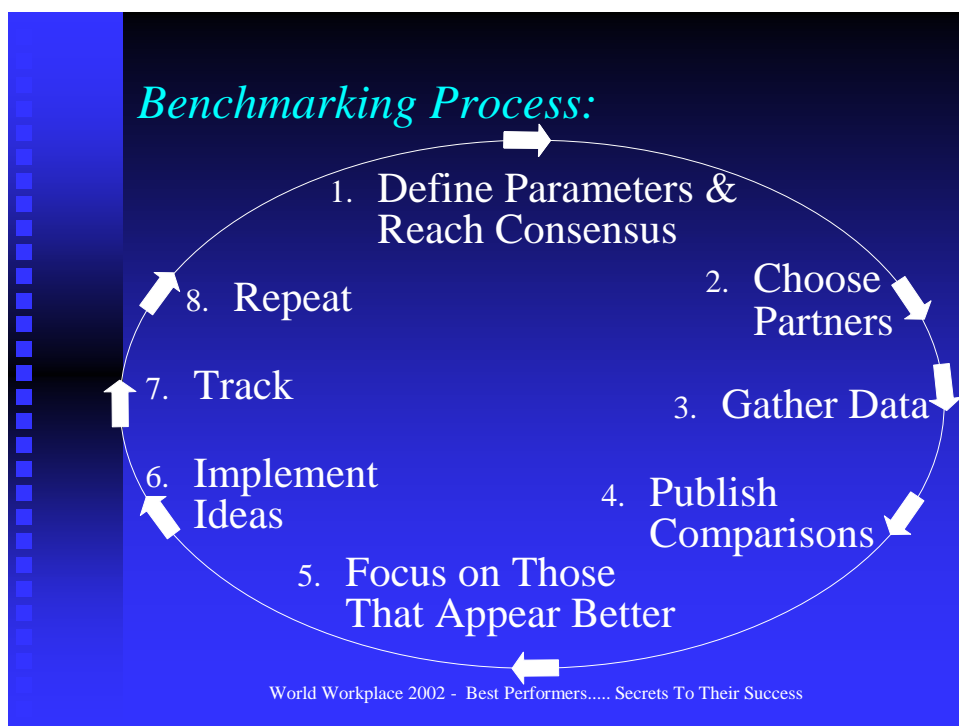
The search for industry best practices that lead to superior performance

Another way of looking at benchmarking is to break it down into major components...

- ❑ A Comparison of Key Metrics – for some participants the annual report is the major focus of the benchmarking effort. Benchmarking for some is like a scorecard so they can show where they stand and how they are doing
- ❑ A Type of Professional Development – by understanding your own metrics and those of other companies, you will become more knowledgeable about the details of your own processes
- ❑ An Advanced Learning Process – from the insight you gain from other “best performing” organization’s processes, you will be able to apply those techniques in your organization.

The Benchmarking Cycle

The overall benchmarking cycle is best described as a continuous improvement process... a circle that repeats annually and allows all of the participants to gain from the experiences of others.



Benchmarking Survey Scope

Good Definitions are the cornerstone to obtaining good data.

Survey definitions are constant from year to year to allow for trending. To view the survey questions or download copies go to: www.FacilityIssues.com and click on the RFB Group button on the left side of the page.

● Site Information

● Operations and Maintenance

- B. Utilities**
- C. Custodial**
- D. Building Maintenance**
- E. Roads and Paving**
- F. Grounds and Landscaping**
- G. Building Security**

● General Services

● Industrial Hygiene and Safety

● Chemical Services

● Environmental Protection Programs

● Facilities Planning and Engineering

● Occupancy Survey - Data Submittal Form / Customer Satisfaction

Benchmarking without measuring quality, levels wouldn't be very effective. Without measuring quality the benchmarking process would become an exercise in determining who had the lowest costs. The appropriate measure is to determine who has first quartile occupant satisfaction and first quartile costs.

To measure quality, the RFB Group uses a Standardized Occupancy Survey. Most of the participants have moved to our web based survey tool to obtain the occupancy survey results. They simply send out an email with a link to the occupancy survey and the results are compiled within a few days. The survey measures the following major services:

1. Your Workstation
2. Moves and relocations
3. Building appearance
4. Facility Cleanliness
5. Facility Maintenance
6. Safeguarding
7. Food Services
8. Facility Services

The full survey can be found at the URL... <http://www.facilityissues.com/OSurveys/2002SAMPLE.asp> and we've reproduced a portion of the survey below.

Sample... Occupant Satisfaction Survey

The General Services Team is interested in feedback regarding your satisfaction with the services provided. Your thoughts are important to us. It will take approximately 5 minutes to complete this questionnaire.

Your survey results are confidential and contact information is optional. However, if you have specific comments or suggestions, or want to be eligible for the drawing, we need your name and phone number.

Please complete your survey today. Thanks for your assistance.

Please indicate your response by clicking on the circle under the appropriate number on each question for both the importance of the question and your satisfaction level. If you do not have an opinion, or if you have no experience with the question topic, click on the N/A checkbox.

	Importance	Satisfaction
1 Extremely Unimportant	1	1 Extremely Dissatisfied
2	2	2
3	3	3
4	4	4
5 Very Important	5	5 Very Satisfied

1. Your workstation:												
	Importance						Satisfaction					
	NA	1	2	3	4	5	NA	1	2	3	4	5
Configuration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:	<input type="text"/>											

Benchmarking Participants

The Research Facilities Benchmarking Group is comprised of participant sites whose primary business activity is support of the research function. During the past several years the participants have included...

Abbott Laboratories
American Cyanamid Company
Ashland
Atofina Chemicals
BASF Agro Research
Battelle Memorial Institute
Ciba Specialist Chemical Corporation
Colgate Palmolive Company
Corning, Inc - Sullivan Park
Dow AgroSciences
Dupont Experimental Station
E. I. DuPont de Nemours & Co.
Eastman Kodak
ElfAtochem N.A.
General Electric Global Research Center
Hewlett-Packard Labs
Honeywell
HRL (Hughes Research Laboratories)
Hughes Research Laboratories
IBM - Haifa
IBM Almaden Research Center
IBM China Research Lab.
IBM India Research Lab
IBM Japan, Ltd.
IBM Research Division - San Jose
IBM Research Zurich Research Lab
IBM TJ Watson Research Center - Hawthorne
IBM TJ Watson Research Center - Yorktown
Kodak Research Laboratories
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
Los Alamos National Laboratories
Lucent Technologies (AT&T)
NOVA Chemicals Corporation
Oak Ridge National Laboratories - Battelle
Pacific Northwest National Laboratories - Battelle
PPG
Rohm and Haas Co.
Sarnoff Research Corporation
Saskatchewan Research Council
Westinghouse Science & Technology Center
Xerox PARC

Gather Data

For many first time participants, this is the most difficult step in benchmarking. If your work order management and accounting systems effectively support your facility operation and decision making process, then you will have no difficulty with data collection. If those systems have not been set up to help you manage the business, then data collection for the benchmarking process will be very difficult.

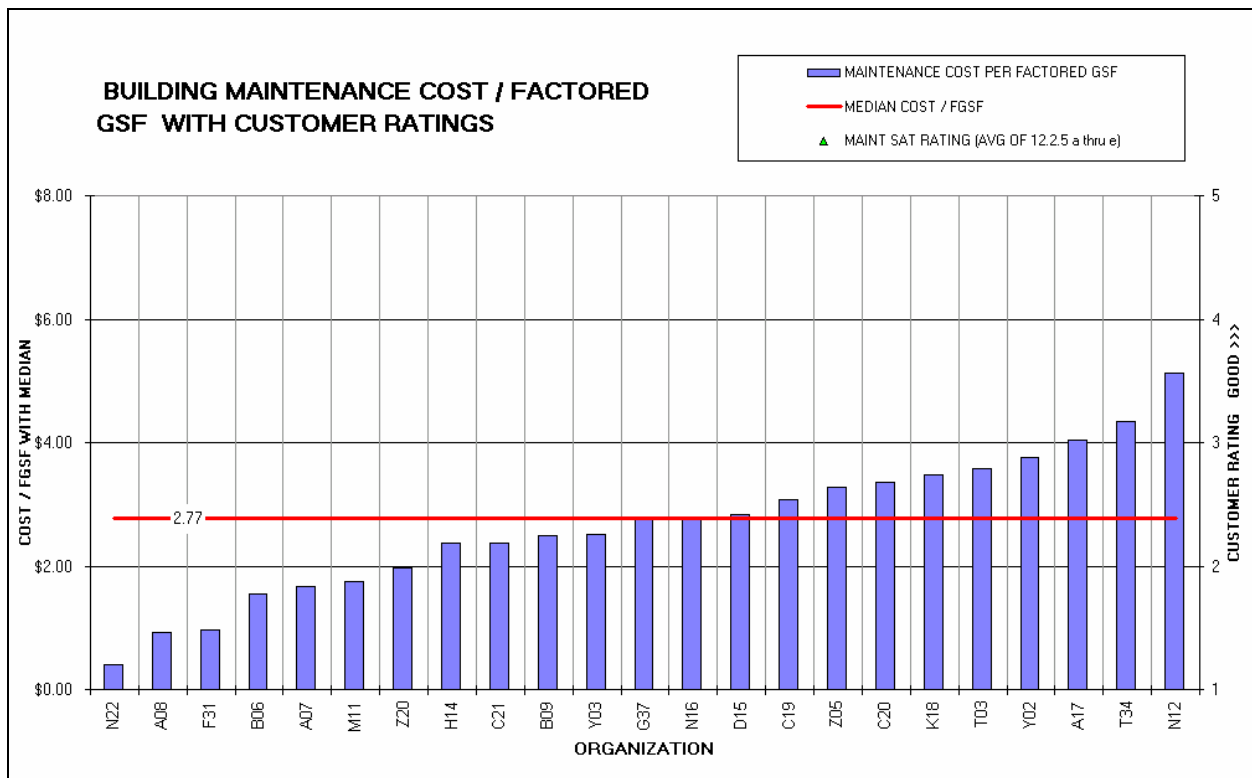
Several years ago we moved the entire data collection step to a web based system. Once participants have the data, there have been no problems entering the data using our web based tools.

Publish Comparisons

Reports are organized in the same manner as the data is collected and distributed via web downloads in Excel format. This allows for easy updates and draft reviews to shorten the cycle time of the process. For 2005 we moved completely away from paper and published only electronic copies of the reports. That's good for the environment because our 2003 RFB Report contained approximately 220 pages of charts, graphs and tables.

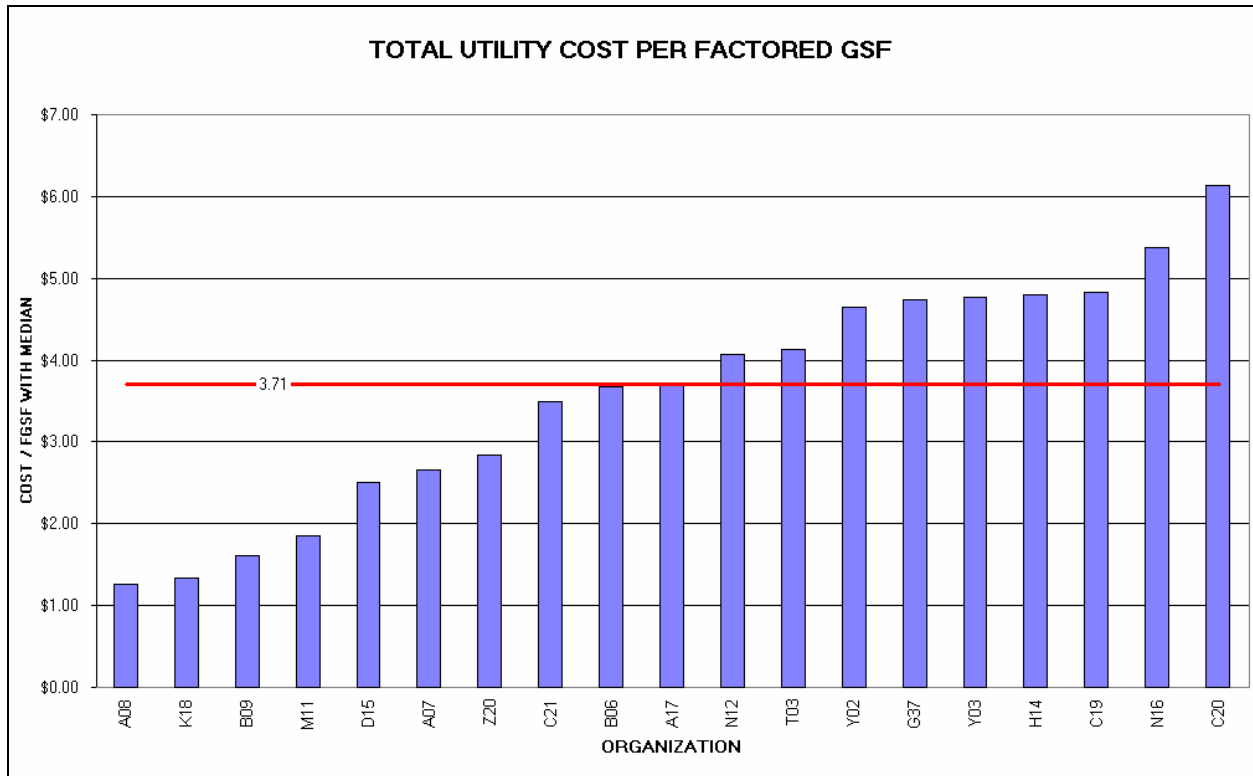
Here are few examples.

The first chart shows Maintenance Cost / Factored SF (this is a normalized type of space). Note that the participants are coded to maintain confidentiality of the data.



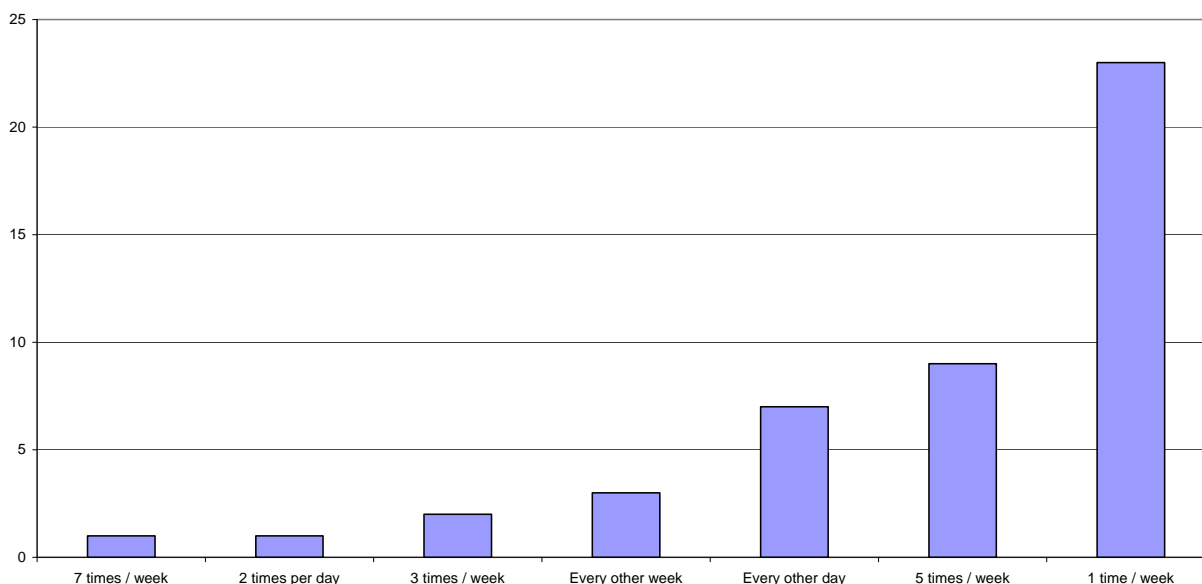
The next chart provides a useful performance indicator for what is usually the largest component of the facility operating expense group. If you were to drill down into the data it would show that electrical costs represent approximately 90 percent of the total utility costs.

Someone usually raises the question... "Should we normalize the data for climate or cost per kwh." Each time that question comes up we've asked our participants if normalization would be appropriate. The answer has always come back... "No! We compete on a global scale and the costs for doing business at our site are directly compared with the cost of doing business at other sites. Senior management isn't going to give us more money if we are in a cold climate / hot climate / high energy cost area / etc." So we don't normalize beyond factored s.f.



Not all of the benchmarking metrics are cost driven. Some of the data we collect involves service level frequencies. For example, the following chart shows that the majority of the participants dust their offices once a week. The second most common frequency is five times a week. For a facility manager, the next step in the benchmarking process would be to evaluate the occupancy satisfaction levels for the once a week group vs. the 5 times a week group to see if there is any significant difference. If there isn't a significant difference then this may be an area where service levels may be reduced without impacting occupant satisfaction.

405 GENERAL OFFICES - DUSTING



Focus on Those That Appear Better

Using the Benchmarking Reports we are able to sort all of the major metrics to identify organizations and sites that can provide Best Practices at our Annual Meeting. Our agenda for 2006 follows...

SUNDAY - April 23, 2006

5:30 PM – 7:30 PM Social Hour - Cash Bar/Light Dinner – Doubletree Guest Suites

MONDAY - April 24, 2006

7:45 – 8:15 AM Continental Breakfast - Coffee, tea, juice, fruit, yogurt, sweet breads, bagels, pastries

8:15 – 9:00 AM Welcome, Introductions, General Information and Acknowledgements

Herb Debban, (Welcome) Oak Ridge National Laboratories

Danny Davis, Oak Ridge National Laboratories

Chris Heck, DuPont

Keith McClanahan, Facility Issues

All – Name and Company

9:00 – 10:00 AM Best Practices Presentations – Energy (20 minutes each) ...

- Improving energy efficiency – Bruce Walker, Battelle
- Energy Management System – Edward Nichols, Corning Incorporated
- Exhaust Management - Ernest Nitsche, Corning Incorporated

10:00 – 10:15 AM Break

10:15 – Noon Best Practices Presentations – Energy (20 minutes each) ...

- Energy Reduction - Fume Hoods - Charles (Mike) Meyer, PPG Industries
- Managing an Energy Program that Affects the Bottom Line - Mike Moran, PNNL
- Relamping/Lighting Process – Lynwood Dukes, Sandia
- Energy Reduction Initiatives – Bradford Kimball, Rohm and Haas Co.
- Fume Hood Occupancy Controls – Steve Havlik, Ciba Specialty Chemicals Corp.

Noon – 1:00 PM Lunch at Oak Ridge National Laboratories – Working lunch to discuss general Research Benchmarking issues

1:00 – 1:30 PM Emerging Issues – Energy

- Electric Deregulation – Chris Heck, DuPont
- Energy Conservation – Gary Hyek, PPG Industries

1:30 PM – 2:30 PM Best Practices Presentations - Industrial Hygiene & Safety, Environmental (20 minutes each) ...

- Use of the DOT Emergency Response Guidebook for emergency planning (versus response only). – Jeff Long, Oak Ridge National Laboratory
- Control of Laser Safety Issues – Gene Moss, Corning, Inc

2:30 PM – 2:45 PM Break

2:45 PM – 4:45 PM Tour and Group Photo
Oak Ridge National Lab Facilities

Dinner/Evening Activity

Tuesday - April 25, 2006

7:45 – 8:15 AM Continental Breakfast

Coffee, tea, juice, fruit, yogurt, sweet breads, bagels, pastries

8:15 – 8:30 AM OPENING REMARKS - Steering Committee Members and Keith McClanahan

8:30 AM – 9:00 AM Emerging Issues – Industrial Hygiene & Safety, Environmental – Gene Moss

- New Safety metrics
- Nanotechnology safety awareness
- Laser Safety Update
- PHRB practices

9:00 – 10:30 AM Best Practices Presentations – Maintenance (20 minutes each) ...

- VOIP(Voice of internet Protocol telephone systems and Unified Messaging Voicemail – Joe Clark, IBM
- Renewal of steam trap maintenance program – Christopher Heck, DuPont
- Preventing drain damage and backup in an animal lab environment while saving water and cleaning chemicals – Jeffery Ferg, Battelle
- Reliability Centered Maintenance – Jimmy Stone, UT Battelle
- Reliability Centered Maintenance study of our Acid Exhaust Study to reduce PM costs – Lynwood Dukes, Sandia

10:30 – 10:45 AM Break

10:45 – 11:15 AM Emerging Issues – Maintenance

- Using Six Sigma for facility issues – Ken Borroni, Rohm and Haas Company

11:15 AM – Noon Best Practices – Office Equipment / Space Management

- Teleconferencing: Facilities, Equipment, & Issues – Charles Davidson, Battelle
- Facility Information Center – Dan O'Connor, UT Battelle

Noon – 1:00 PM - Lunch at Oak Ridge National Laboratories – Working lunch to review “Benefits of Benchmarking”

1:00 – 2:15 PM Emerging Issues – Office Equipment / Space Management / Leasing

- Space Management - procedures, systems, etc. - Charles (Mike) Meyer, PPG Industries
- CMMS Implementation - Charles (Mike) Meyer, PPG Industries
- Maximo - Charles (Mike) Meyer, PPG Industries
- Information consolidation and ease of getting to information regarding facilities – Dan O'Connor, UT Battelle
- Leasing: Landlord & Tenant Issues - Charles Davidson, Battelle
- Sub-leasing of office space – Thomas Bianchi, Ciba Specialty Chemicals Corp.

2:15 – 2:45 PM Customer Satisfaction Surveys

- Utilizing occupancy surveys to understand what your users really want. – Keith McClanahan, Facility Issues

2:45 – 3:00 PM Break

3:00 – 3:30 PM Public Involvement

- Supporting Science and Technology in Our Public Schools – John Parent, Battelle

3:30 – 4:00 PM Wrap Up

- Sharing Successes and Challenges
- Other Issues

Implement Ideas

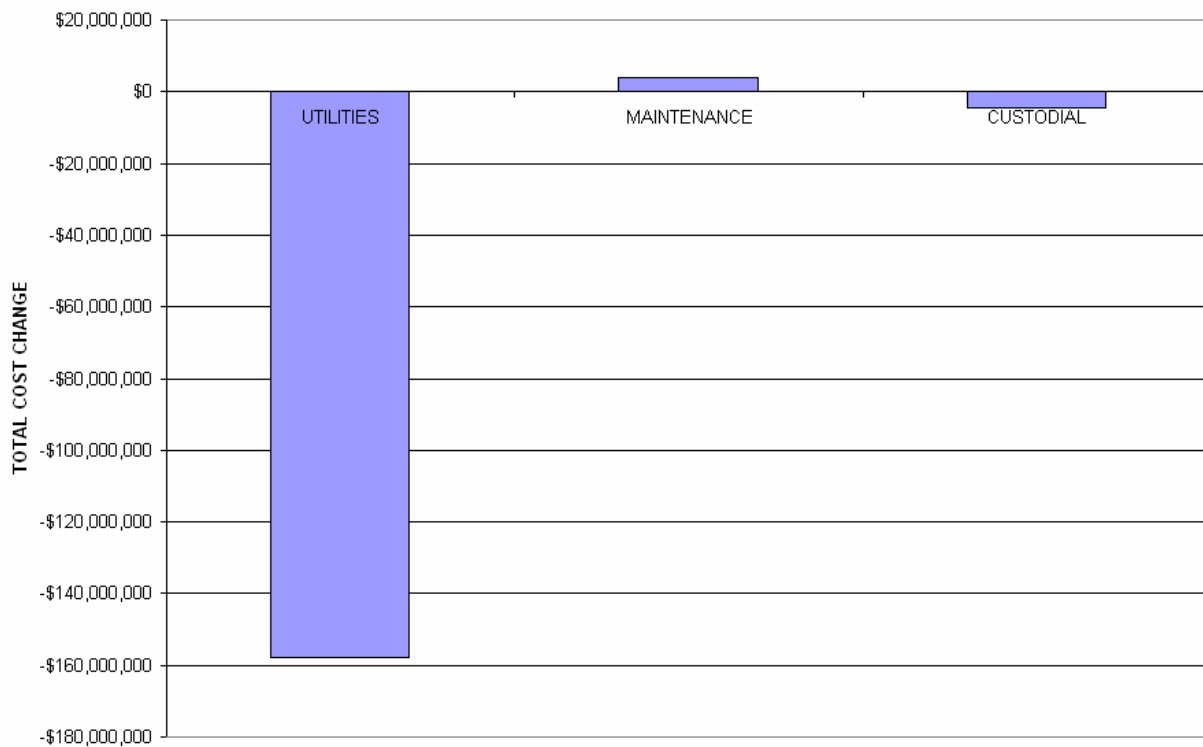
A frequently heard comment by our benchmarking participants is: "I've seen it work at the company we just visited (talked to). I know I can bring that concept or program into my organization and it will work for me." Knowing that something works and that the cultures are similar is often half the battle in implementing change in facilities organizations. Benchmarking participants:

- Know What and How to Change
- Build Confidence and Self Esteem for the proposed changes
- Overcome Defensive Tendencies to leave the organization unchanged

Benchmarking Savings

Savings from benchmarking can be significant. The RFB Group has shown a total inflation adjusted savings of more than \$158 million over a five year period. There are approximately 25 million square feet in the study so this works out to about \$1.25 per square foot in annual median savings, or \$6.32 in savings for the past five years for all of the benchmarking participants.

RFB BENCHMARKING GROUP - COST CHANGE FROM 1999 - 2005



Schedule

Most of our participants view benchmarking as a continuous improvement process. Our schedule for the RFB Group is as follows...

Participant registration period	September - December
Preliminary data development and input	January - February
Preliminary data submittal due...	End of February
Distribute draft benchmarking report	Early March
Participants comment on draft report and revisions due by...	March 1 - 15
Data submittal revisions due...	Mid March
Issue final benchmarking report...	Early April
RFB Conference Meeting	Mid May