

Yale OFFICE OF FACILITIES

Facilities Utilities Rates and Charging Methodology – Base for FY14 Planning

Questions – please contact John Kaufhold, Director of Finance & Administration – Facilities

Utility Power Plant Costs (from FY'14 model which derived the target building load):

<u>(\$ millions)</u>	<u>Central</u>	<u>Medical</u>	<u>West</u>	<u>Total</u>
Purchased Utility Costs	\$34	\$20	\$9	\$63
I&A	22	10	0	32
Salaries and Fringe	6	4	2	12
Assessments	1	0	0	1
Block 3 and other	3	2	1	6
Total	\$66	\$36	\$12	\$114

Services Included:

- ❖ 3 Power plants: (Central, Sterling, West Campus)
 - the Central Campus Chiller Plant supplements Chilled Water production for the Central Power Plant for the Central Campus customers
 - ❖ Provision of Utilities by Power Plants
 - Includes Heating, Cooling, and Electric produced by the power plants, and maintenance/repair of campus infrastructure
 - ❖ Pass-through Costs of Utilities which bypass the Power Plants
 - Buildings outside of the power plant service area
 - ❖ Engineering Services
 - Energy Management, Plant Engineering, HVAC Control Monitoring
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Commonly Asked Questions:

1. Why can't I go to a utility company for service, rather than obtain utilities from the Yale Power Plants?
 - Electric, Chilled Water, and Steam infrastructure is already in place serving most of the campus footprint.
 - Electrical service redundancy exists for most buildings allowing for service and maintenance with minimal to no impact to building operation.
 - Increased level of reliability and having Yale under full control of service and restoration.
 - Overall provides the most cost effective way to provide electric, steam and chilled water to campus buildings.
 - Each building would need to have local heating and cooling sources if not connected to the central system, which would be less efficient and higher costs for maintenance for each building.
 - Utilities operations staff are on site 24/7, 365 days per year servicing and operating all power plants at each campus.
 - Promotes Yale sustainability goals (reducing carbon footprint)
 - Yale receives volume discounts for energy and gas purchases
 - Yale can "hedge" or lock in price for future energy purchases, reducing rate volatility
2. What is Utilities' annual budget?
 - Utilities budget (total campus) is approximately \$115 million. About \$63 is utilities purchased externally, and \$32 is I&A on utilities infrastructure. Of the \$63, about half is gas, which is under financial hedge, however consumption is still variable. Utilities can be significantly impacted by things such as changes in the weather, equipment dispatch, market volatility, age/condition of building, end-user habits, and collective bargaining.
3. How are utilities billing rates determined?
 - Utilities costs are assigned to "pools" for commodities produced by the plant (Steam, Chilled Water, and Electric) as well as costs for Block 2, Block 3 and I&A. Standard engineering factors are used to assign purchased utilities to the plant produced utility pools (i.e., externally purchased gas operates turbines which in turn produce electricity and steam in the plant). Factors are also assigned to account for equipment efficiency and dispatch to produce each commodity. Each cost pool (steam, chilled water, electric) is then divided by total end user consumption to achieve the billing rate. Customers are then charged this billing rate multiplied by their specific consumption.

4. Is Facilities an ISP (internal service provider)?

- Yes, as a result we must allocate 100% of our costs to the respective buildings, departments, cost centers, etc. that receive our services. Yale has chosen to treat Facilities as an ISP, which helps to include the actual/true cost of running the campus within the F&A rate calculation. The F&A rate calculation is used to support the much needed reimbursement from our sponsoring agencies/grants/funding.

Current Charging/Allocation Methodology:

Utilities Produced by Power Plants- Costs are billed to buildings served by the power plants based on metered data (validated by Engineering) to which utilities billing rates are applied. Sometimes estimates are necessary. In support of sustainability initiatives of the University, effective in FY'13 we distribute utilities costs into two expenditure types which separate controllable costs (consumption by the department) from non-controllable rate variances (unexpected rate changes through the power plants compared to budget).

Utilities Directly from Utility Company- Bills for utilities not obtained from the power plants are passed directly through to the buildings, in only one expenditure type. There is no breakdown to review consumption and rate-related variances.

I&A on Certain Utilities Projects Benefiting Specific Buildings- Specific buildings benefitting from certain utilities projects receive I&A directly through a year-end charge, rather than through utilities rates.
