

Update on the Downtown Honolulu Seawater Air Conditioning Project

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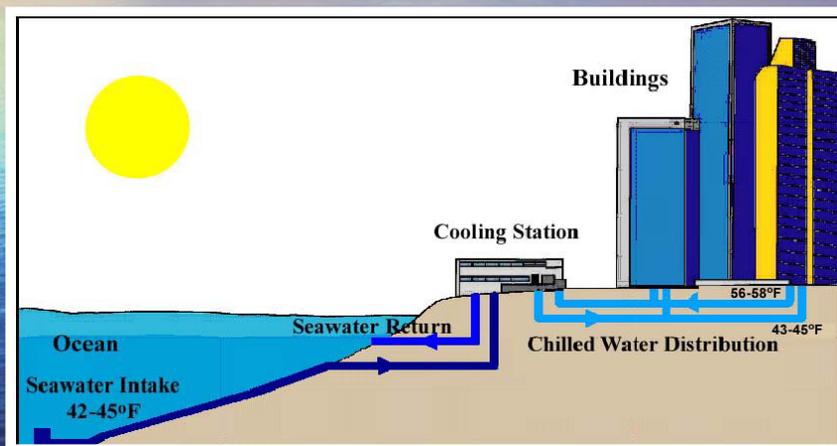
Presentation Overview

- What is Seawater Air Conditioning (SWAC)?
- Benefits of SWAC
- Downtown Honolulu SWAC System

What is Seawater Air Conditioning?

- A typical Seawater Air Conditioning (SWAC) system is quite simple:
 - Cold seawater is pumped up from a depth of 1,600 to 3,000 feet
 - This cold seawater is passed through a heat exchanger where it cools fresh (chilled) water that is circulated to buildings

A Typical SWAC System



Benefits of SWAC

- Customer Benefits
 - Reliable Cooling
 - Stable Cooling Costs
- Green Building Benefits
- Environmental Benefits
- Local Economic Development Benefits
- Community Benefits
- Secondary Benefits

Customer Benefits

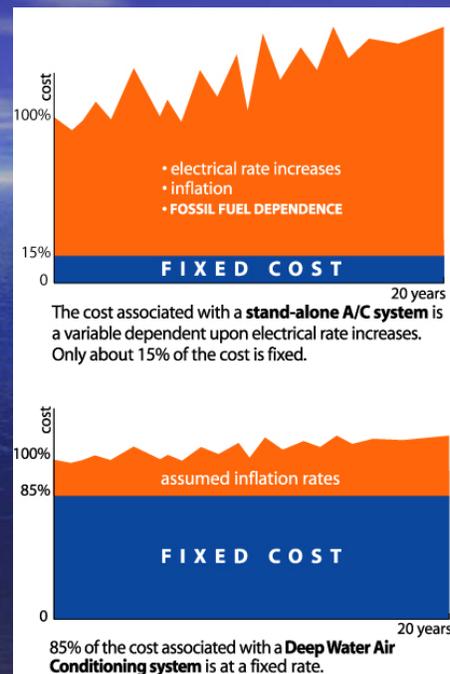
- Large-scale, district cooling systems have lower operating and maintenance costs than individual building air conditioning systems
- SWAC systems provide convenient, reliable, low- and stable-cost cooling

Reliable Cooling

- SWAC systems are simple, and technically and economically feasible today
- SWAC systems use industrial-grade, off-the-shelf components
- Seawater supply systems have many years of use and demonstrated reliability in sometimes hostile environments
- Deep water cooling systems have been successfully installed in a number of areas worldwide from Stockholm, Sweden to NELHA on the Big Island, Hawaii
- Large-scale district cooling systems are successful, low cost, energy efficient, environmentally friendly and have been used worldwide

Stable Cooling Costs

SWAC systems will provide customers with reduced and stable cooling costs



Green Building Benefits

- Improved USGBC **LEED** and EPA **ENERGY STAR** ratings and recognition as a *green* building give building owners an opportunity to:
 - Reduce environmental impacts
 - Cut energy costs
 - Create value through energy efficiency
 - Demonstrate improved energy and environmental performance through external validation
 - Establish good relationships with regulators
 - Earn public recognition for superior performance
 - Demonstrate community good will
 - Capture lease premiums and present a more competitive property
 - Attract environmentally conscious customers and tenants

Green Building Benefits* (cont'd)

- The value of SWAC in **LEED** scores
 - For New Construction, SWAC alone may provide 4 of the 6 points needed to improve the LEED rating from Silver to Gold.
 - For Existing Buildings, SWAC alone may provide 6 of the 8 points needed to improve the LEED rating from Certified to Silver and Silver to Gold.
- The value of SWAC in **ENERGY STAR** ratings*
 - An **office building** with a rating of 59 may improve to a rating of 75 and qualify for an ENERGY STAR label.
 - An **upper upscale hotel** may increase its rating from 55 to 75 and qualify for an ENERGY STAR label.
 - An **economy hotel** with a rating of 43 may improve to a rating of 75 and qualify for an ENERGY STAR label.

*Energy Star rating values are based on a 20% reduction in electricity use due to the use of SWAC.

Environmental Benefits

- Reduce the annual use of imported fossil fuels by more than 145,000 barrels

- Reduce associated emissions:

CO ₂	69,600 tons/year
VOC	3.4 tons/year
CO	19 tons/year
PM ₁₀	15 tons/year
NO _x	128 tons/year
SO _x	134 tons/year

Environmental Benefits (cont'd)

Eliminates cooling towers and will:

- Save nearly 265 million gallons/year of potable water
- Reduce sewage generation by up to 83 million gallons/year
- Eliminate the need for cooling water treatment chemicals

Local Economic Development Benefits

- The 25,000-ton HSWAC project will generate millions of dollars in construction project spending
- In addition to construction jobs, a significant number of long-term, well-paid jobs will also be created
- Other local economic development benefits will accrue from money that stays in Hawaii, and is not used to purchase oil

Community Benefits

- Provides necessary utility infrastructure (i.e., district cooling) to support community development
- Provides local construction jobs
- Provides long-term employment

Secondary Benefits

- There are a number of potential uses of the seawater that leaves the SWAC system. Among these are:
 - Auxiliary cooling for power plants, industrial facilities, and cooling systems. Warmed return seawater from the HSWAC system is still relatively cold and can be used for auxiliary power plant cooling;
 - Flushing of harbors and canals; and
 - Cold water agriculture and aquaculture.

Downtown Honolulu Service Area



Cold Seawater Supply Pipe



Downtown Honolulu SWAC Update

- Legislative Support
 - \$80 million in tax-exempt financing
 - Exemption from PUC regulation
 - Qualified for tax incentives under Acts 221/215
 - Strong political support of federal tax incentives for renewable energy technologies such as seawater air conditioning. Governor Lingle stated that “I encourage your continued support of innovative energy technologies such as seawater air conditioning.”

Downtown Honolulu SWAC Update (cont'd)

- **Permitting**
 - Preliminary Draft Environmental Impact Statement completed
- **Customer relations**
 - Completed engineering surveys of many of the largest customer buildings
 - Ready to begin contract negotiations with customers
 - Customer response has been overwhelmingly positive and encouraging
- **Investor relations**
 - Meetings with potential Hawaii and Mainland investors are underway
 - Investor reactions have, again, been very positive and promising
- The project is projected to be operational December 1, 2007.

Aloha!



Honolulu Seawater Air Conditioning, LLC