



Alaska SeaLife Center®

w i n d o w s t o t h e s e a

**Alaska SeaLife Center Seawater Heat Pump Project
Denali Commission Emerging Energy Technology Grant
UAF 10-0069**

**Alaska Energy Authority Renewable Energy Grant
AEA Grant Agreement No. 7030017
Quarterly and Monthly Report ending March 1, 2012**

Key Activities Completed:

1. Trane is 98% complete with the Tracer SC programming.
2. Design work is commencing on connecting the Center's pavement heating to heat pumps and to recover waste heat from various sources in the building to add to the evaporator loop to keep the glycol temperature entering the heat pump evaporators as high as possible to improve system performance. The schedule is have 50% complete design drawings by April 30, 2012 and 100% complete design drawings, specifications and cost estimates by June 1, 2012. This project is being funded by a grant from the M.J. Murdock Foundation.
3. On April 14, 2012 Jason Moore (formerly with KTTU-TV Channel 2) and Scott Jensen (KTVA-TV Channel 11) under contract to the Alaska SeaLife Center and YourCleanEnergy conducted interviews and shot video for preparation of short video presentation on the seawater heat pump system.

Existing or Potential Problems Addressed:

Activities Targeted for Completion:

1. Completion of final Tracer programming punch list. Complete full system commissioning and training. Training is scheduled for April 25-26, 2012.
2. Obtain formal modification of the ACEP agreement regarding the Exhibit requirement.
3. Finalize project reporting and monitoring requirements with ACEP/AEA following commissioning and training.

4. We have been invited to present a poster on the project at the REAP annual *Business of Clean Energy Conference* scheduled for April 19-20, 2012. A copy of the poster is attached.
5. We are invited to present the seawater heat pump system at the April 23, 2012 Green Star HVAC workshop at 11:00 a.m., Anchorage Crowne Plaza (Borealis Room).
6. We are invited to be the presenter at the May 9, 2012 REAP Forum, 6:00 – 8:00 p.m., Anchorage Museum Auditorium.

ASLC HEAT PUMP PROJECT TIMELINE

Updated January 1, 2012

June 6, 2010 – July 7, 2010: Procure and contract mechanical/electrical engineering services

July 8 – November 30, 2010: Complete design (Drawings, Specifications, Final Cost Estimate)

December 1 – January 31, 2011: Procure and control and electrical contractors.

December 1, 2010 – November 15, 2011: Equipment procurement (including instrumentation), installation and commissioning, and final reporting:

- a. Shop drawing/manufacture submittals and review – 3 weeks
- b. Manufacture and ship heat pumps, heat exchangers and instrumentation to Seward – 12 weeks
- c. Ship heat exchangers, heat pumps, instrumentation from Seattle to Anchorage to Seward – 2 weeks
- d. Installation of all mechanical, electrical and instrumentation components – 6 weeks, including piping and seawater supply pump
- e. Start-up, commissioning, and training

November 15, 2011 – June 30, 2012: Project monitoring and reporting to ACEP/AEA

EXHIBIT TIMELINE

January 1, 2012– March 1, 2012: Exhibit (video) development

March 1, 2012 - June 1, 2011: Exhibit (video) production and evaluation

June 1-30, 2012: Exhibit (video) launch

Project personnel assigned to the project are as follows:

Darryl Schaefermeyer, ASLC Operations Manager
Randy Stauffer, ASLC Project Engineer
John Underwood, ASLC Facilities and Life Support Supervisor

Douglas (Ricky) Deel, ASLC Exhibits Manager

Andy Baker, P.E., (www.yourcleanenergy.us)

John Faschan, P.E. (www.edc-alaska.com)

Kevin Hansen, P.E. (www.edc-alaska.com)

Project Executive
Project Manager
Project
Superintendent
Exhibit
Development
Consulting Engineer
Electrical Engineer
Mechanical
Engineer

The project is on schedule and budget to meet the revised Contract completion date of June 30, 2012.

Attachments: (1) Schedule & Milestone Overview as of 4/1/12
 (2) REAP Poster
 (3) REAP Forum Announcement
 (3) Financial Report

**Sea Water Heat Pump Project
Schedule & Milestone Overview
As of 4/1/12**

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|---|--------------------------|
| 1. Heat Pumps Ordered ⁽¹⁾ | Nov. 12, 2010 |
| 2. Complete System Engineering | Nov 30, 2010 |
| 3. Release System Component RFQs | Dec. 1 – Dec. 31, 2010 |
| 4. Place System Component Orders | Jan. 25 – Mar. 25, 2011 |
| 5. Receive System Components | Mar. 7 – May 6, 2011 |
| 6. Install Heat Pumps in Basement | Mar. 17 – 18, 2011 |
| 7. Install Piping in 2 nd Floor Gallery | April 4 - 7, 2011 |
| 8. Install Components & Piping in Basement | April 11 – June 6, 2011 |
| 9. Install Electrical Power & Control Wiring ⁽²⁾ | May 2 – June 8, 2011 |
| 10. Commission Heat Pump System ⁽³⁾ | June 27 – April 24, 2012 |
| 11. Complete System Training | April 25 – 26, 2012 |