



RA-14-110

January 23, 2015

The Honorable Gary Quinn  
Mayor, Lacey Township  
818 West Lacey Road  
Forked River, NJ 08731

Subject: Oyster Creek Nuclear Generating Station  
Independent Spent Fuel Storage Installation Annual Report

Reference: Building Permit; Appeal 93-40 (after remand)

Conditions 10 and 11 of the referenced building permit require the Oyster Creek Nuclear Generating Station (OCNGS) to submit annual reports to Lacey Township concerning the status and operation of the OCNGS Independent Spent Fuel Storage Installation (ISFSI).

Enclosure 1 provides the OCNGS response to Conditions 10 and 11. Enclosure 2 provides the ISFSI 2014 monthly average temperature graphs and Enclosure 3 provides the most recent ISFSI 2014 semi-annual radiation survey.

If any further information or assistance is needed, please contact Thomas Cappuccino at 609-971-4430.

Sincerely,

Mike McKenna  
Regulatory Assurance Manager

Enclosures 1, 2, and 3

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cc: NRC Region I, Regional Administrator  
NRC Senior Resident Inspector - Oyster Creek Nuclear Generating Station  
NRC Document Control Desk

NM5526

Enclosure 1  
Oyster Creek Nuclear Generating Station  
Independent Spent Fuel Storage Installation  
Response to Building Permit Conditions 10 and 11

**Independent Spent Fuel Storage Installation (ISFSI)  
Building Permit Condition Ten:**

"The applicant shall provide to the township on a yearly basis, written records revealing all temperature and radiation measurements. The applicant shall further advise of any and all repairs made to the concrete modules."

**Oyster Creek Nuclear Generating Station (OCNGS) Reply to Condition Ten:**

The temperatures within the loaded concrete Horizontal Storage Modules (HSMs) are monitored daily and are part of the stations surveillance records. The internal temperature of loaded HSMs are approximately 16° to 30°F higher than unloaded HSMs, depending on the heat load of the spent fuel loaded into the HSM. On a typical sunny summer day, the highest HSM temperatures read about 118°F. This is well within the design limits of the modules and represents a maximum actual heat loading of approximately 12 KW.

The graphs in Enclosure 2 provide the average daily temperature data for the period from September 14, 2013 to October 14, 2014, for the following HSMs.

HSM numbers	Year loaded
1, 2, 3, 4	2002
5, 6, 7, 8	2003
9, 10, 11	2004
12, 13, 14, 15, 16	2005
17, 18, 20	2010
19, 21, 22, 23	2012
24 - 34	Empty

From January 14, 2014 thru February 10, 2014, the South ISFSI temperature monitoring system was Out-of-Service on the Plant process computer; during this period, the station conducted local monitoring of temperatures on a daily basis. All temperatures were within the maximum allowable value, with no deviations.

The highest radiation measurements on the front surface of the HSMs are 1.2 mr/hr gamma (i.e., on HSM-17) and 1.4 mrem/hr neutron (i.e., on HSM-18). The roof of the HSMs is a posted radiation area and is not readily accessible. These readings are well within the design limits of the modules. Based on environmental TLDs, which are processed on a quarterly basis, the highest radiation levels at the ISFSI security fence are 0.058 mr/hr gamma and 0.008 mrem/hr neutron. The most recent semi-annual radiation survey is provided as Enclosure 3.

There were no repairs to the concrete HSMs in the last year. Fourteen (14) additional modules were installed in 2012 (i.e., HSM 21 through HSM 34).

Enclosure 1  
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The existing OCN GS ISFSI, which was reviewed under Building Permit, Appeal 93-40 (after remand) is complete with 34 installed HSMs, of which 23 are loaded with spent fuel. The total number of installed HSMs represents a change from the number in the previous annual report. In 2012, an additional 14 HSMs were added to the ISFSI (i.e., HSM 21 through HSM 34)

**ISFSI Building Permit Condition Eleven:**

"The applicant shall provide to the township on a yearly basis, the specific number of spent fuel rod assemblies which have been moved into the dry storage facility."

**OCNGS Reply to Condition Eleven:**

The following table provides the number of fuel assemblies that were transferred to the ISFSI for each of the applicable years, starting in 2002. There were no fuel assemblies loaded into the ISFSI prior to 2002. Presently, there are no further transfers planned until 2016; however, rescheduling may occur given plant status and future activities.

<b>Year loaded</b>	<b>Number of assemblies</b>
2002	244
2003	244
2004	183
2005	305
2010	183
2012	244

<b>Total assemblies</b>
1403

**Status of Yucca Mountain Repository**

The Department of Energy (DOE) submitted a license application for construction of the Yucca Mountain Repository to the Nuclear Regulatory Commission on June 3, 2008.

In testimony to the Senate Budget Committee on March 11, 2009, Dr. Steven Chu, DOE Secretary, stated "[B]oth the President and I have made clear that Yucca Mountain is not a workable option." In accordance with this view, the Administration requested, and Congress appropriated, for FY2010, only enough funds to continue the NRC license proceeding, while halting any design or development progress on the actual repository. The Administration's FY2011 budget proposal eliminated all funding for the Yucca Mountain project.

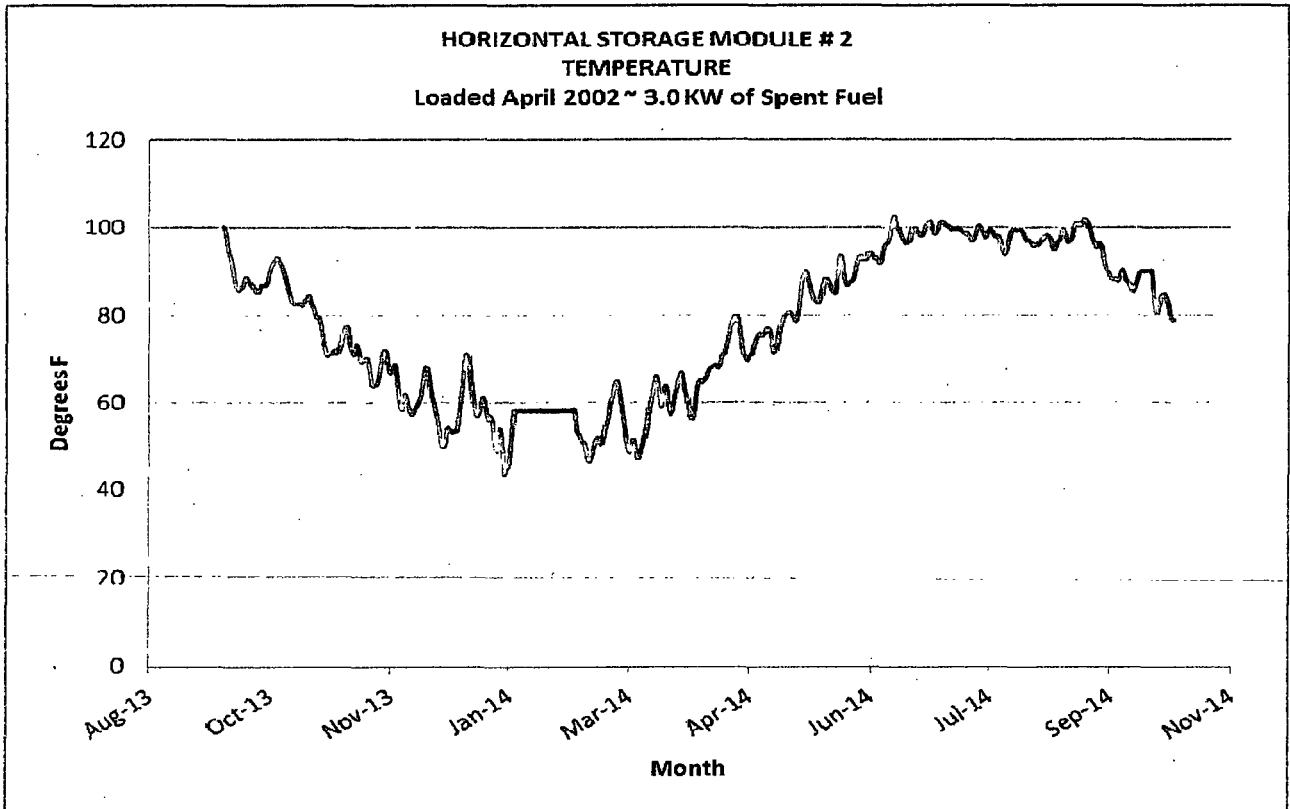
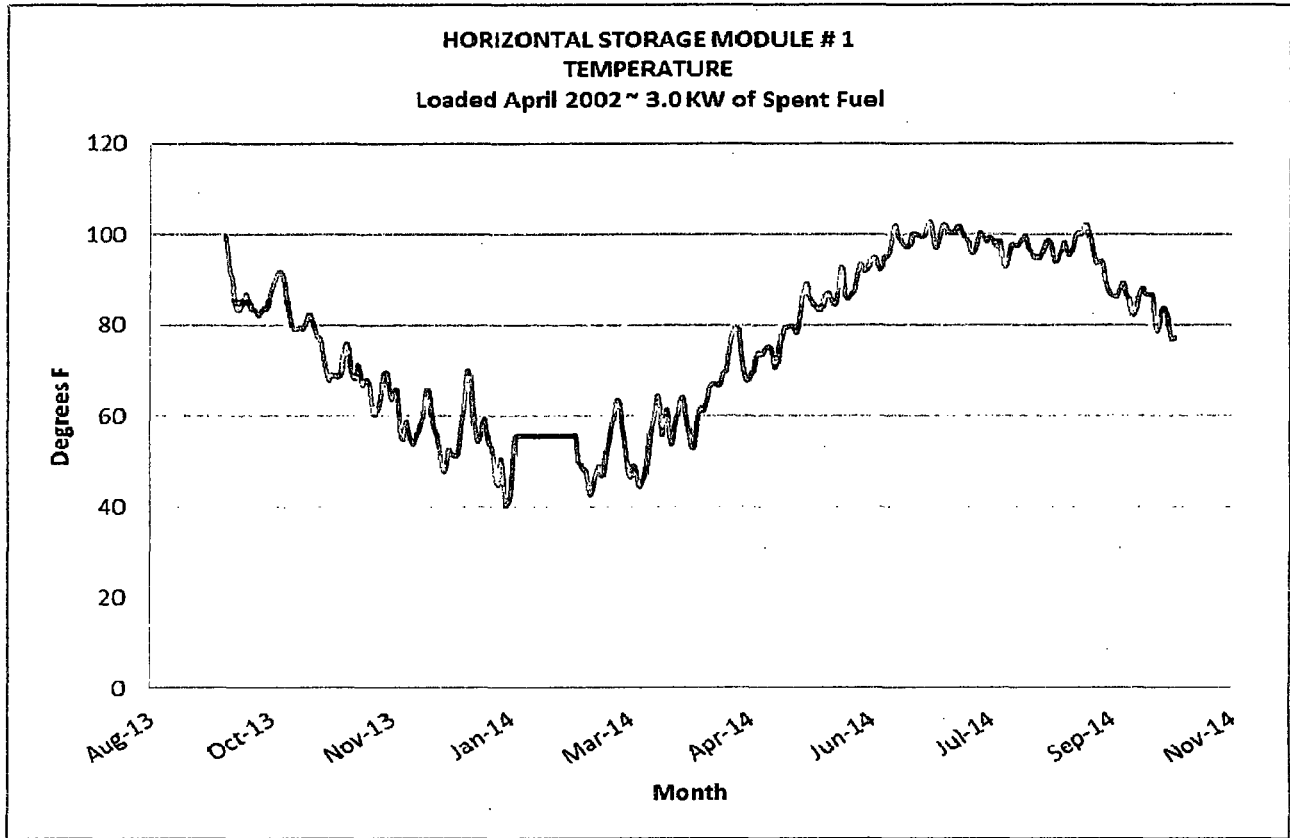
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Shortly before releasing the FY2011 budget proposal, the Administration directed the DOE to establish a Blue Ribbon Commission on America's Nuclear Future (Commission) to explore, study, and evaluate alternatives to the Yucca Mountain facility for the permanent storage of spent nuclear fuel. The Commission's goal was to "provide recommendations for developing a safe, long-term solution to managing the nation's used nuclear fuel and nuclear waste." The Commission would not, however, consider specific sites for a future repository. The Commission was charged with producing an interim report within 18 months of the Commission's establishment and a final report within 24 months.

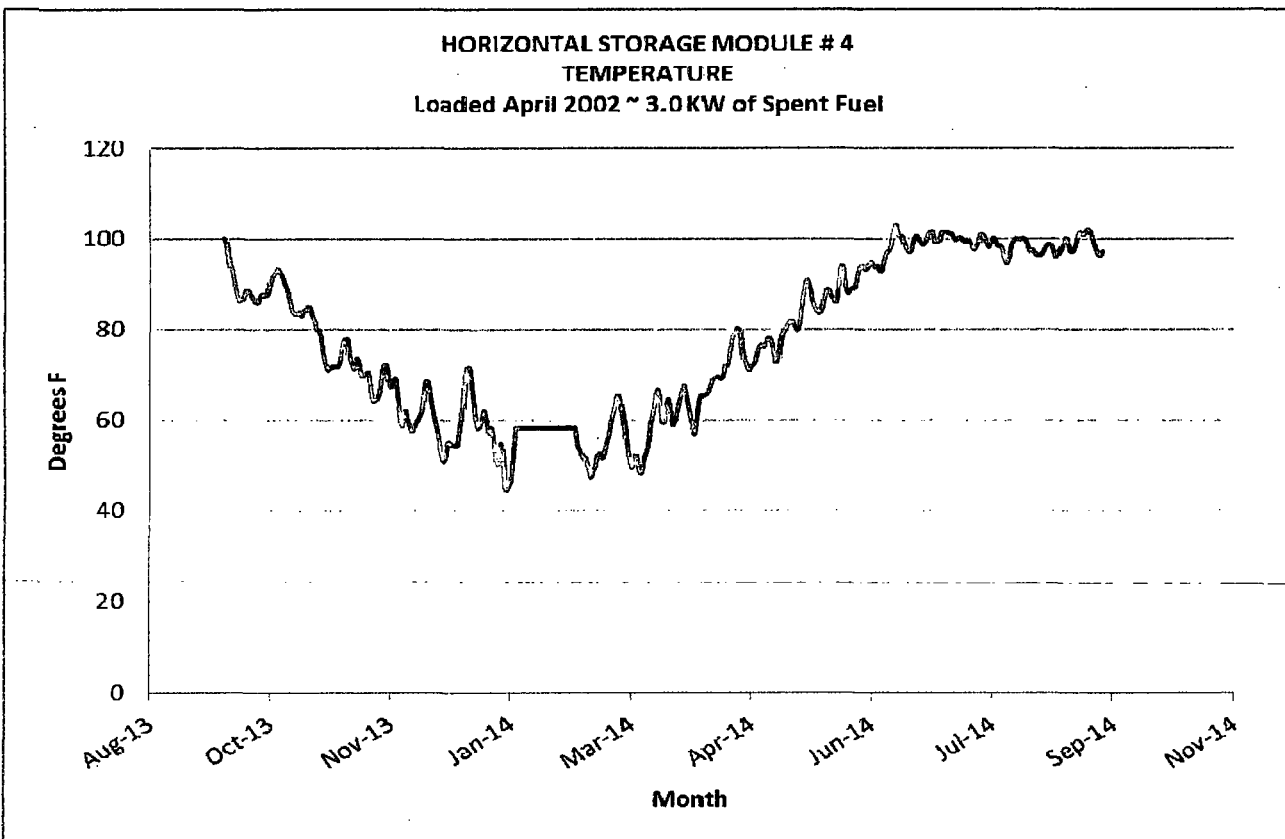
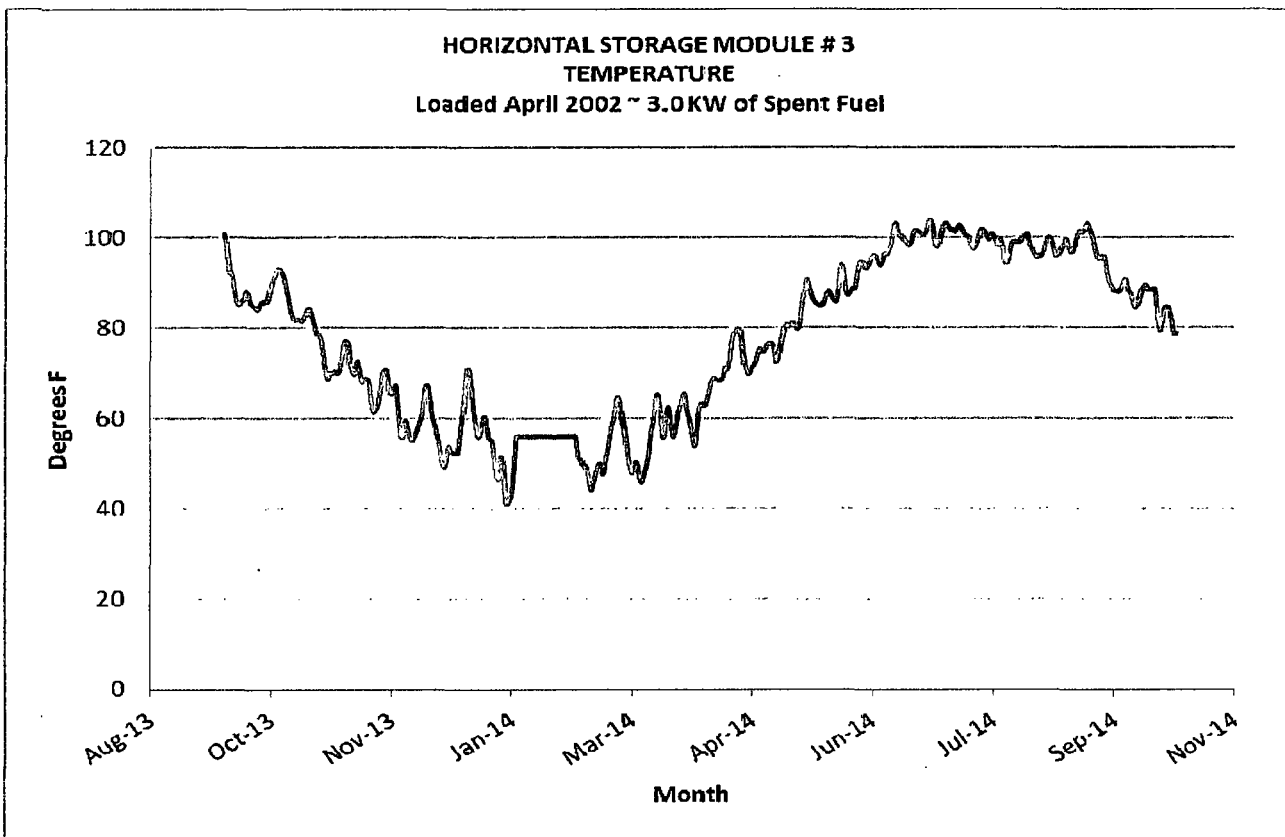
The Commission issued its final report on January 26, 2012. The report did not make any specific recommendations as to the "suitability" of Yucca Mountain, other than to make clear that the process of selecting and establishing the Yucca Mountain facility has suffered from several flaws and should be replaced by a new "consent-based approach" that provides "incentives" and encourages interested communities to "volunteer" as a potential host site for an eventual repository.

While acknowledging that "the future of the Yucca Mountain project remains uncertain," the Commission did make specific findings that may have significant influence over the future of nuclear waste disposal. The Commission concluded that deep geologic disposal "is the most promising and accepted method [of disposal] currently available," and therefore recommended that the United States "should undertake an integrated nuclear waste management program that leads to the timely development of one or more permanent deep geological facilities for the safe disposal of spent fuel and high-level nuclear waste." The Commission also reiterated the severe consequences of continued delays and urged Congress and the President to take action to institute the Commission's recommendations "without further delay." Congress has thus far taken no action to implement the Commission's recommendations.

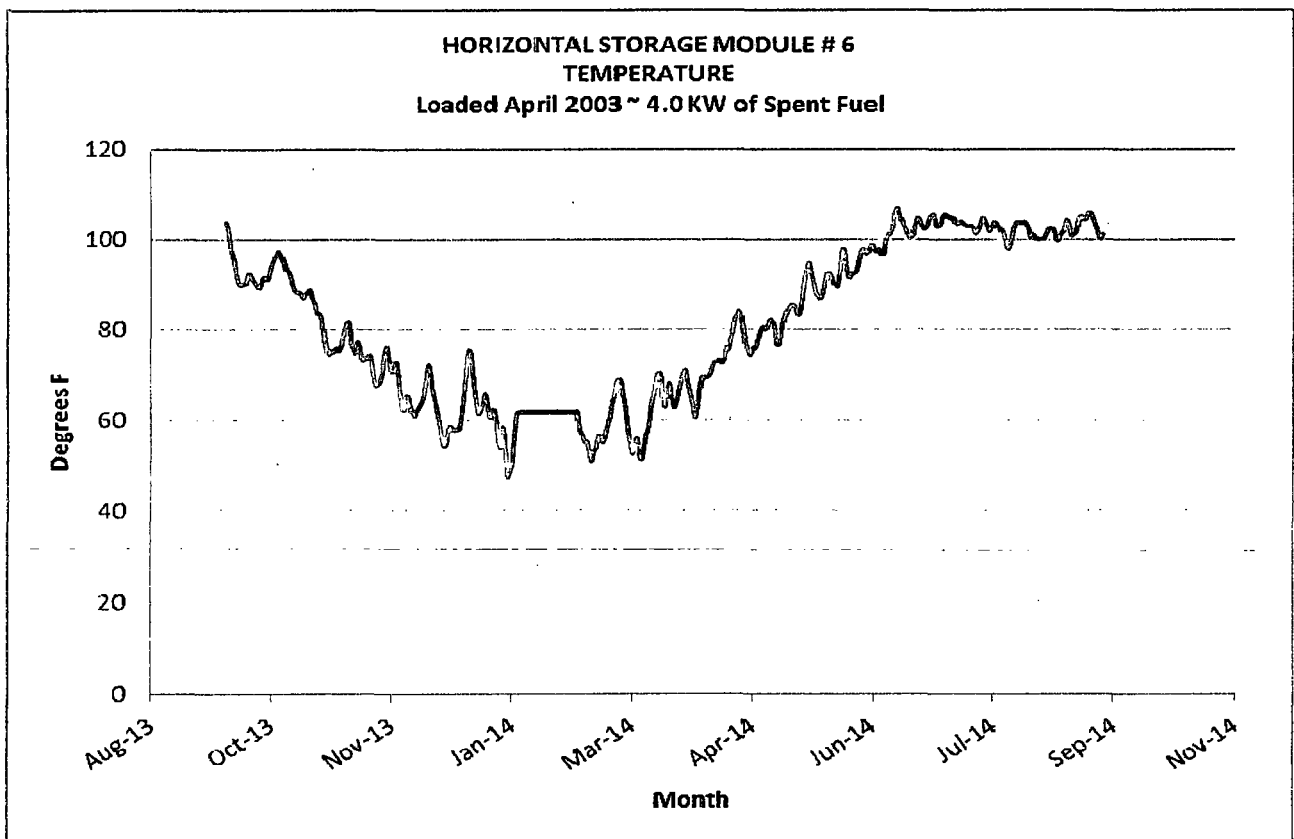
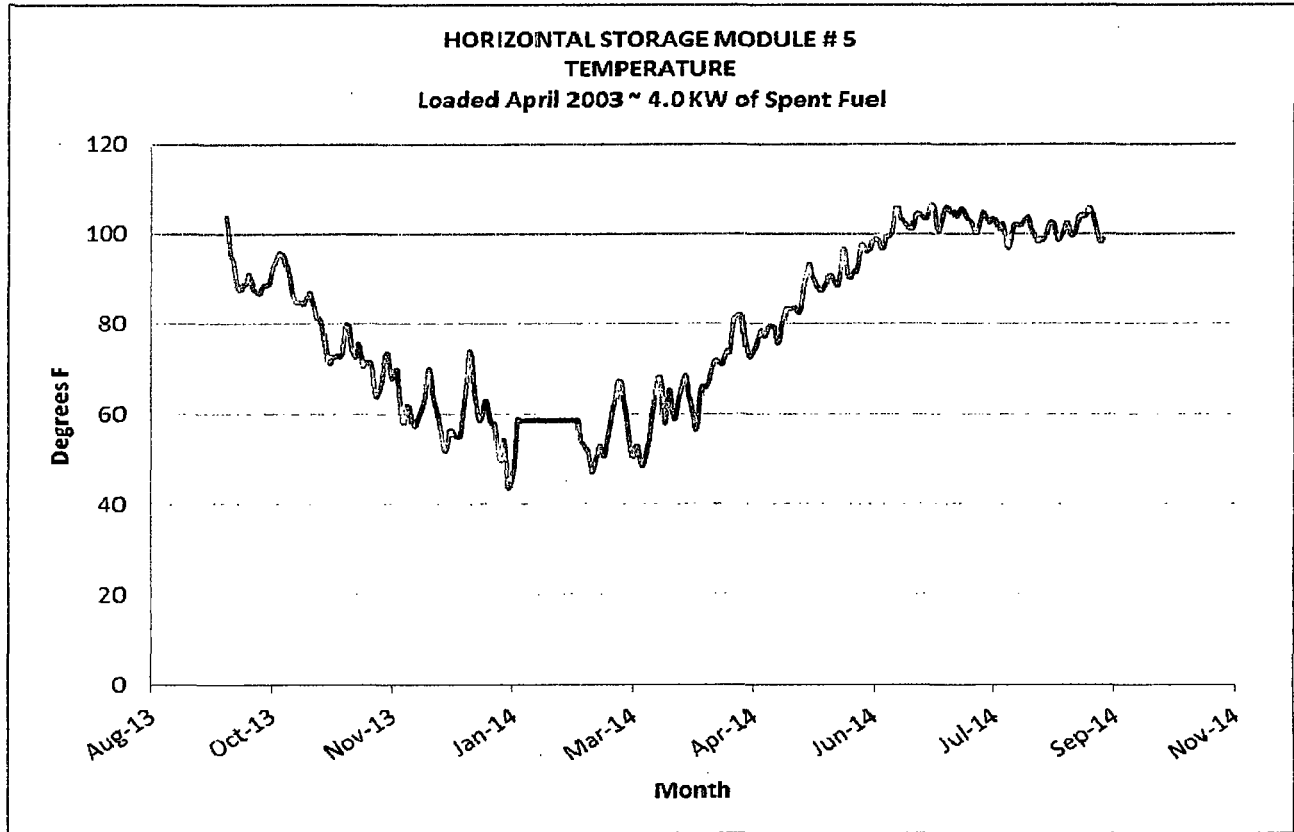
Enclosure 2  
Oyster Creek Nuclear Generating Station  
Independent Spent Fuel Storage Installation  
Temperature Monitoring Graphs



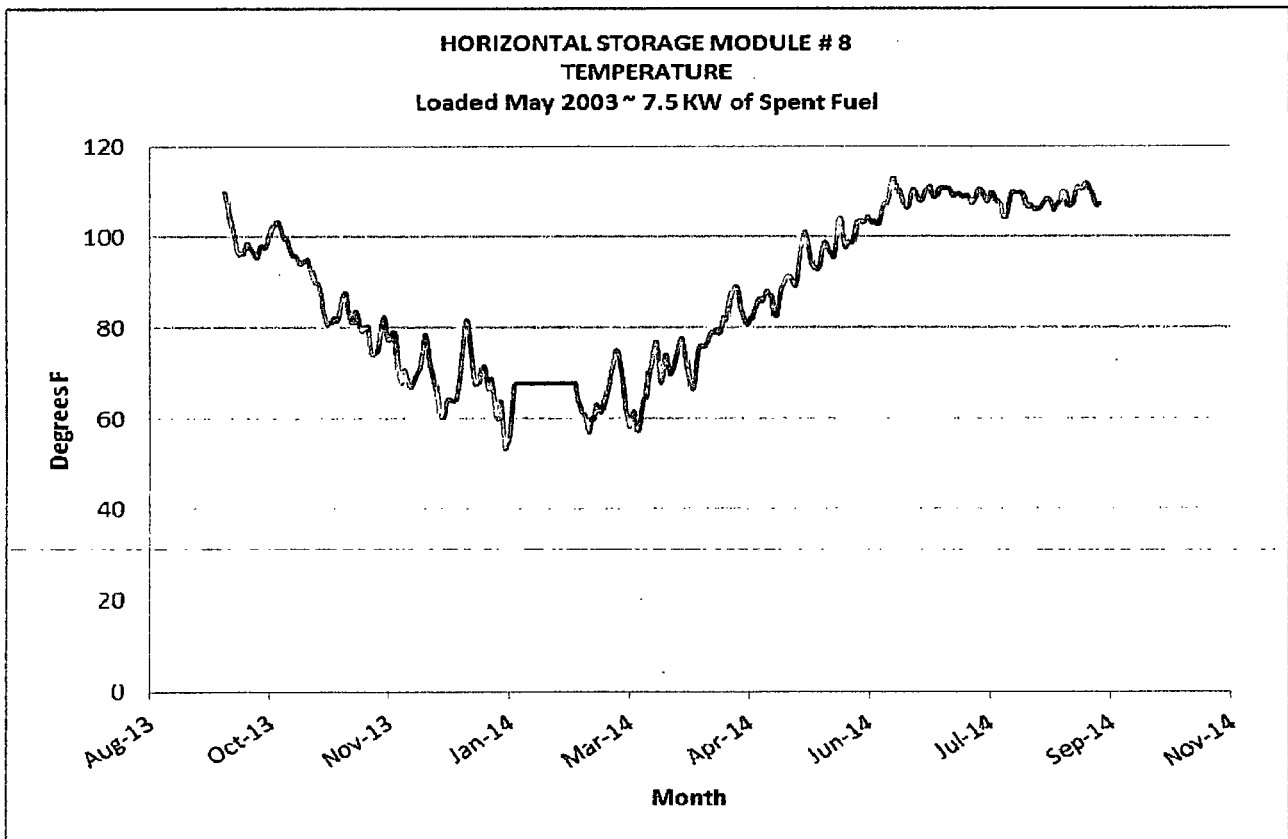
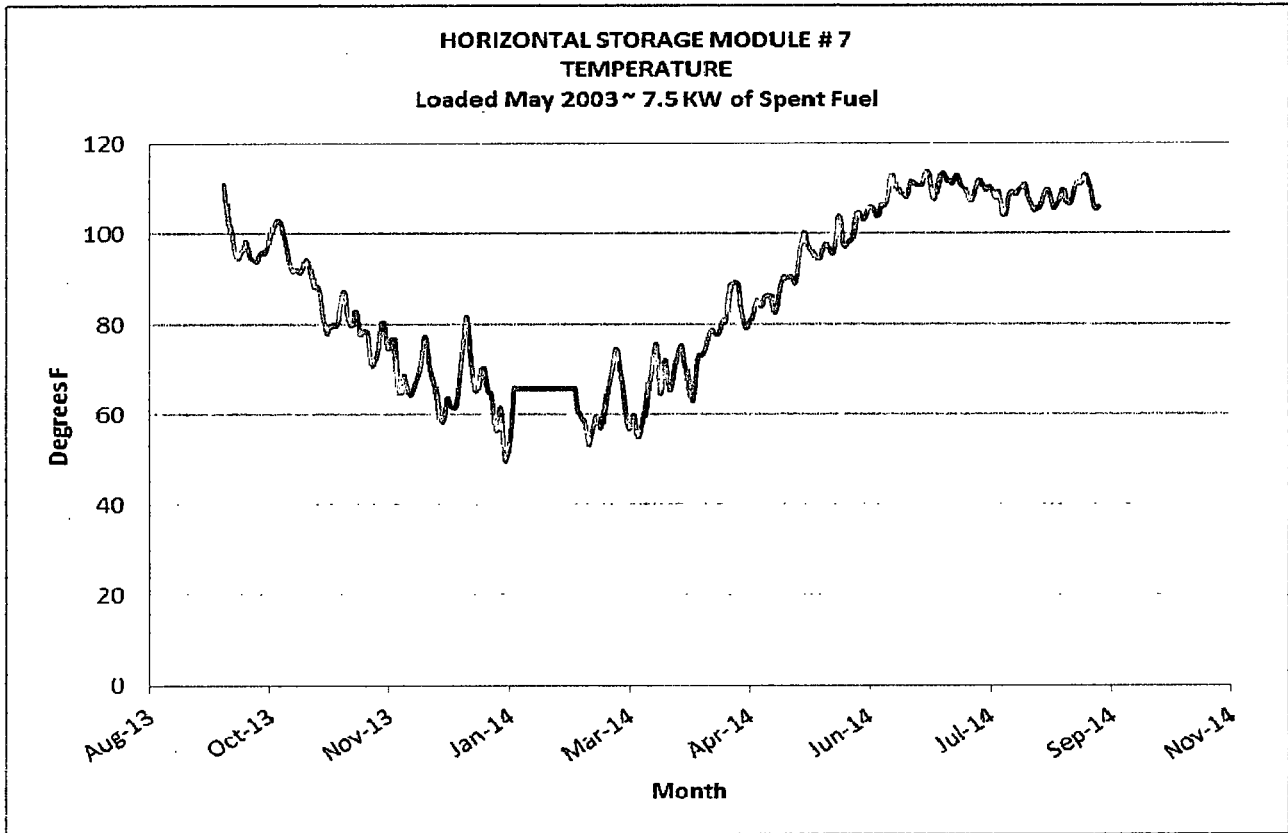
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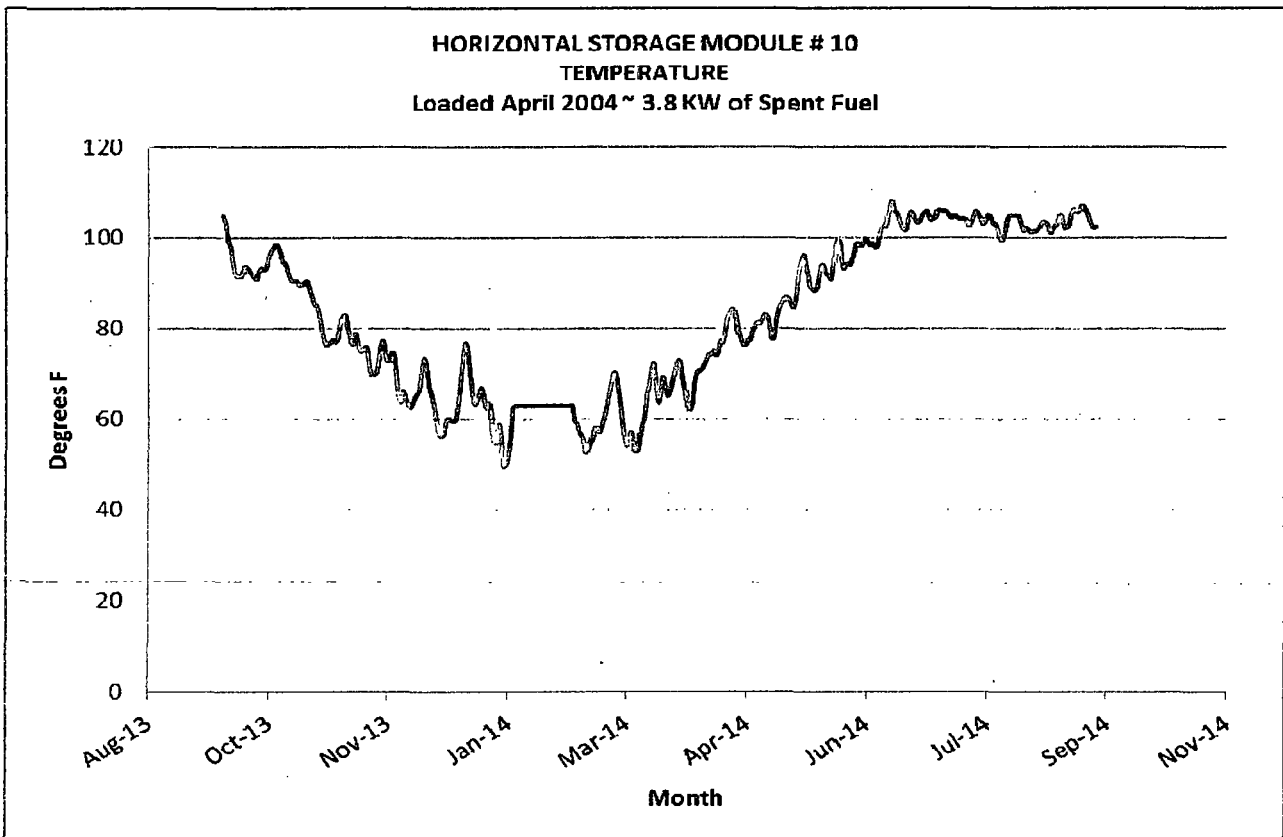
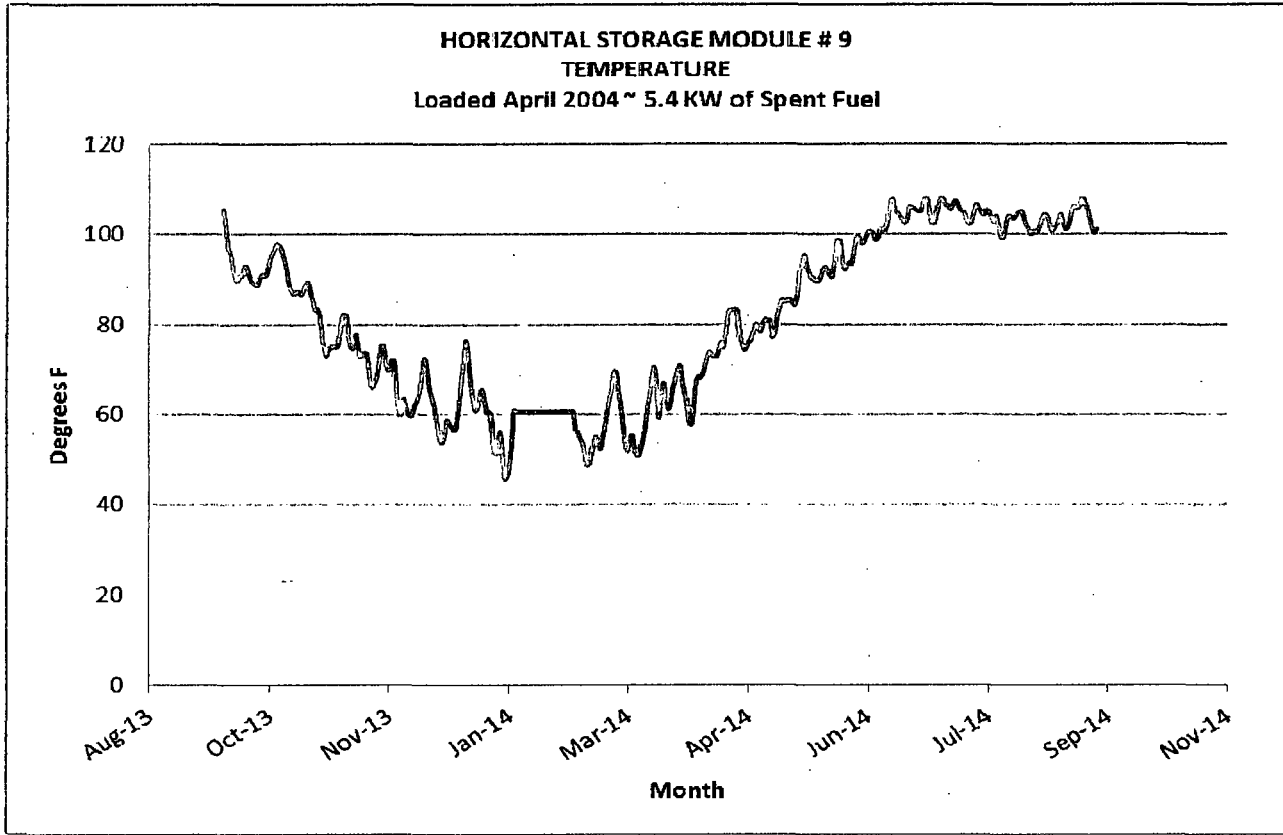


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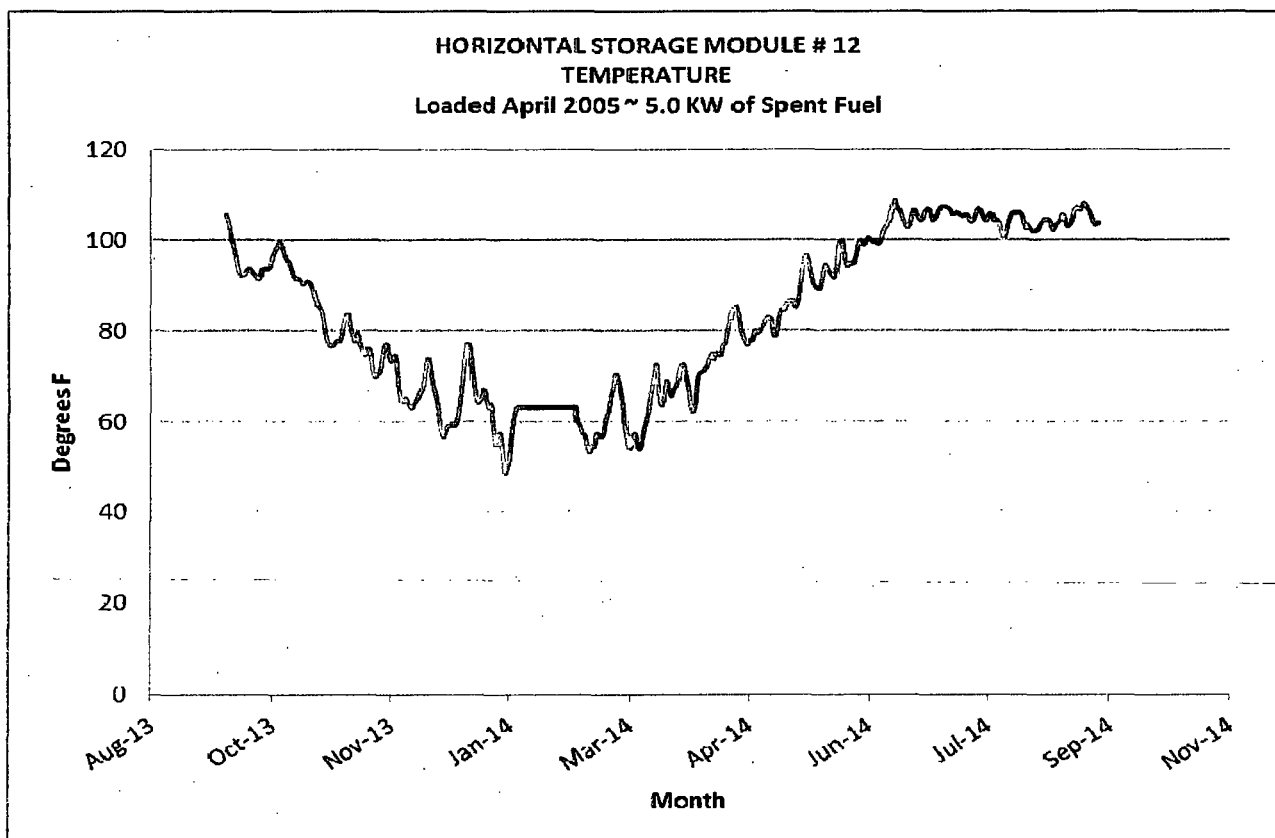
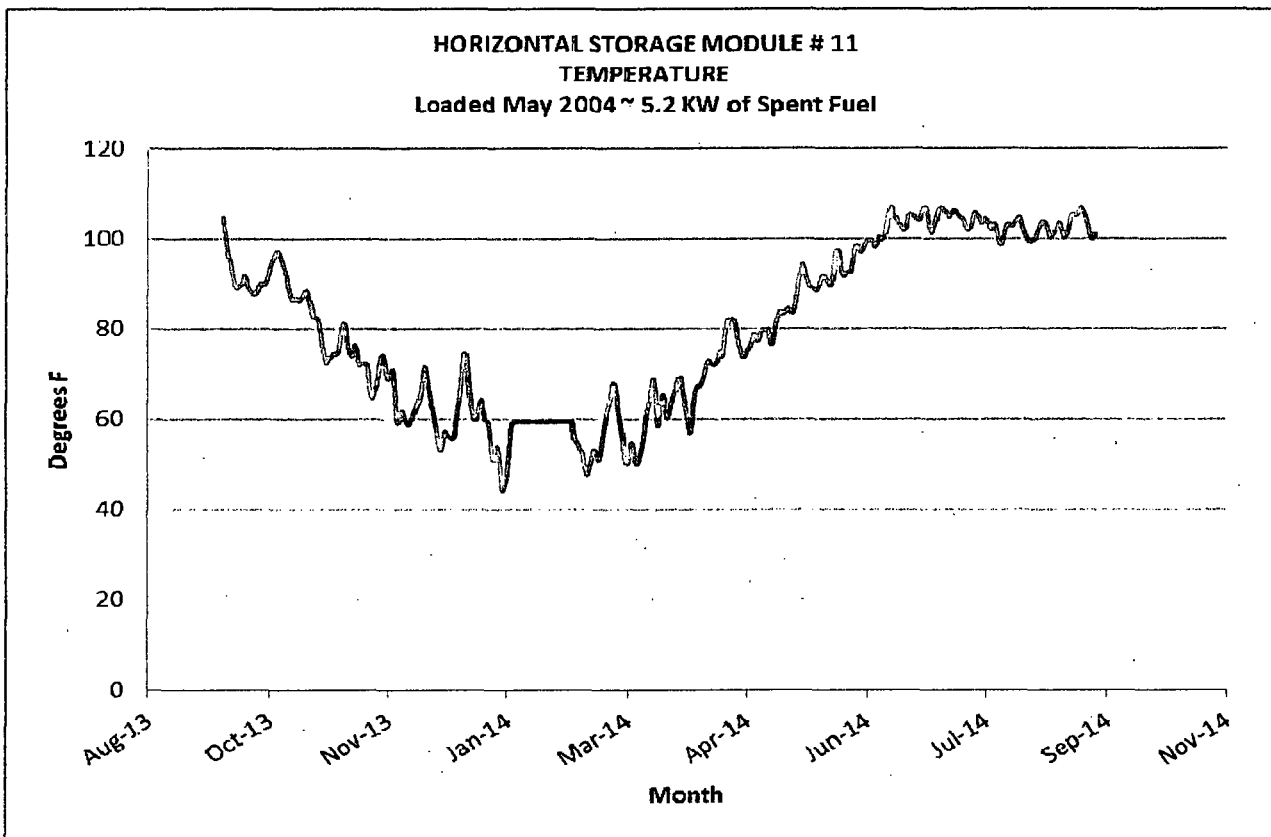




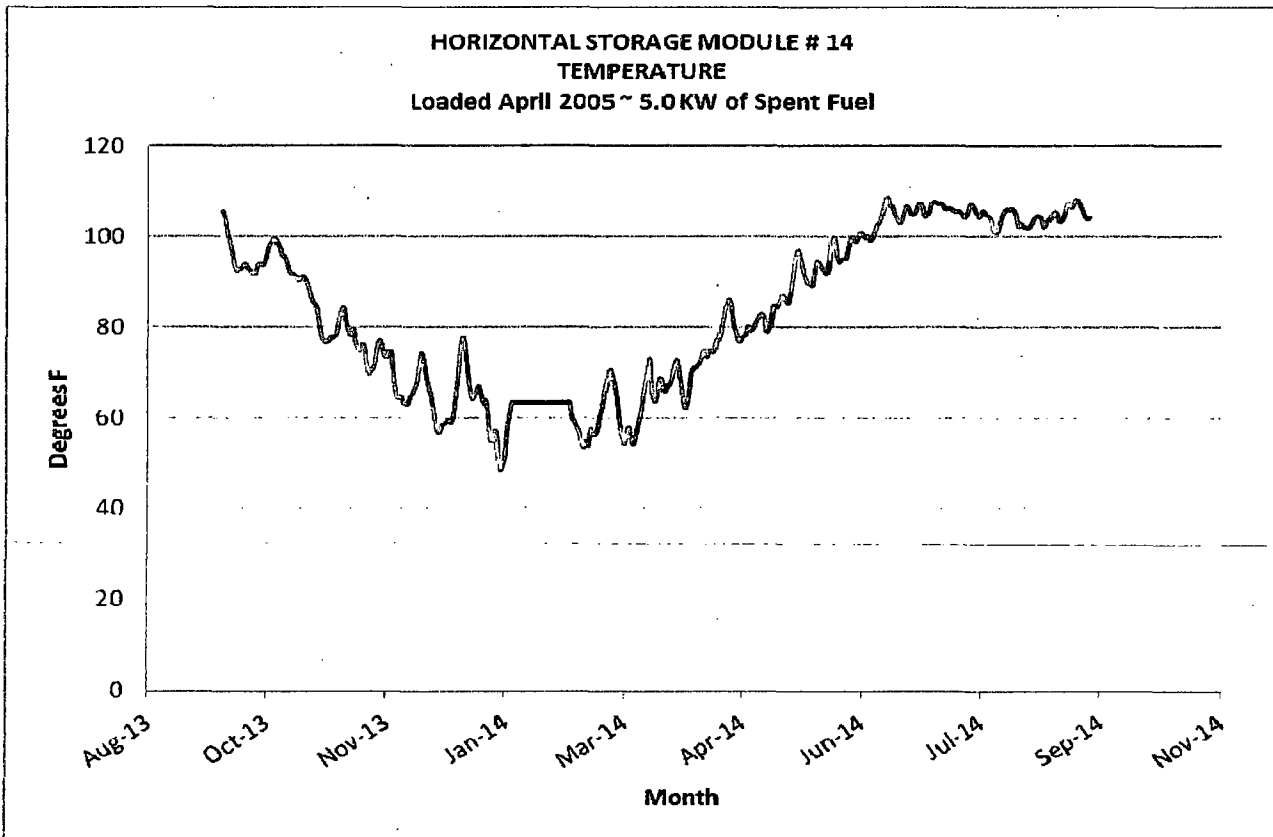
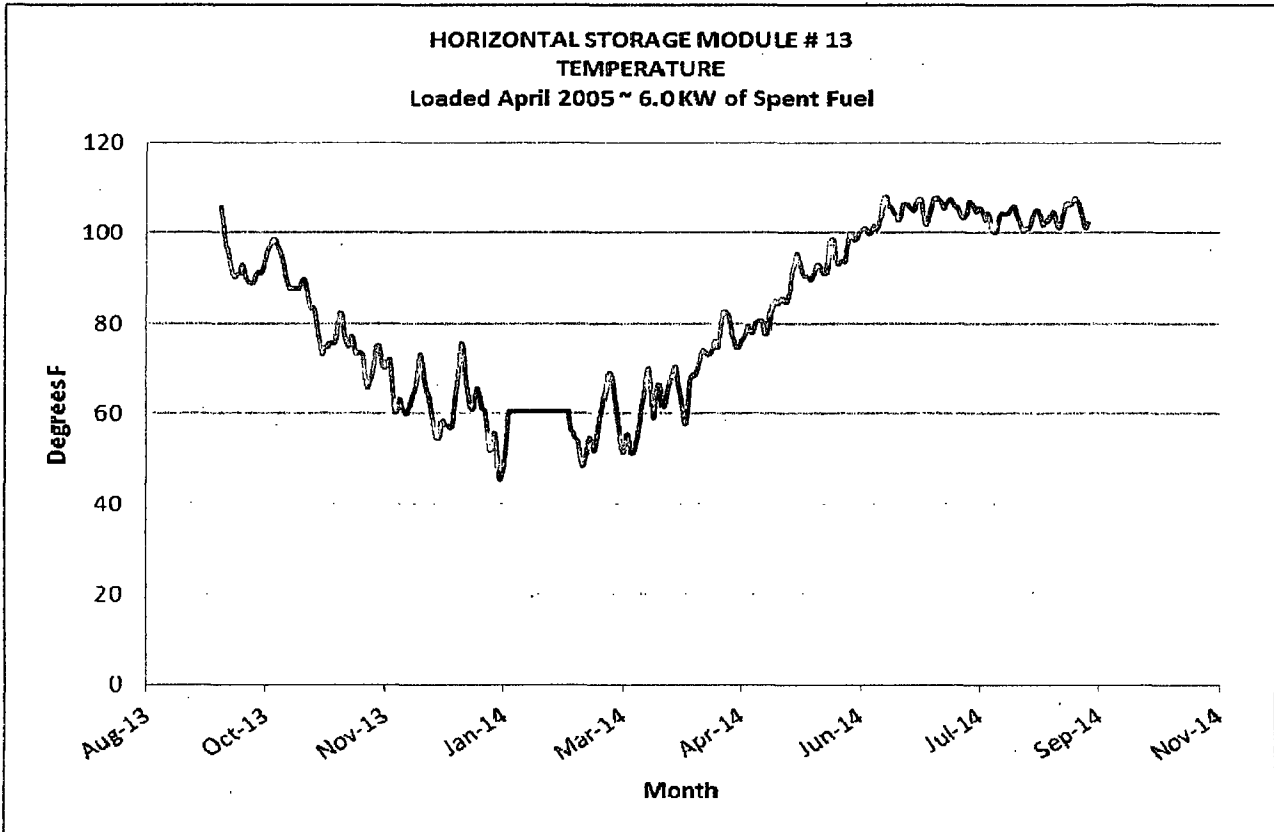
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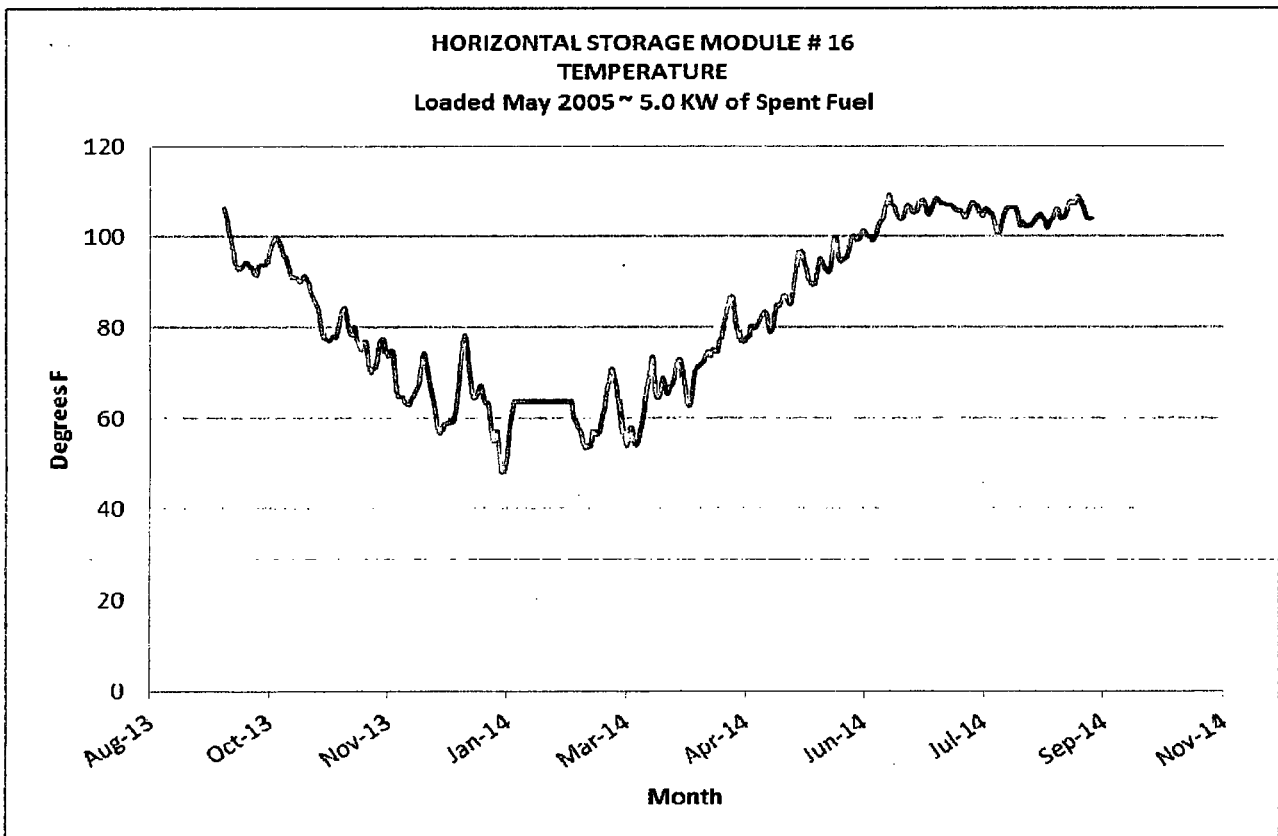
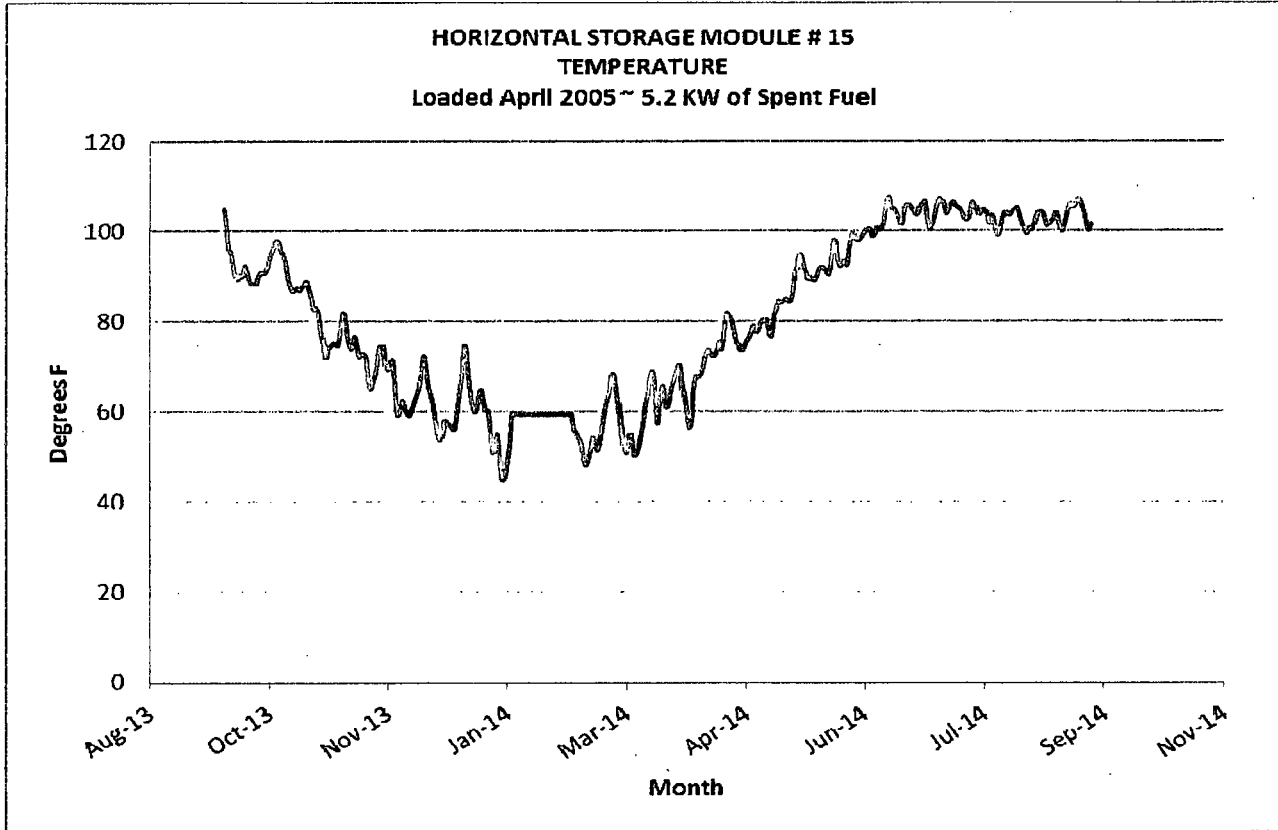
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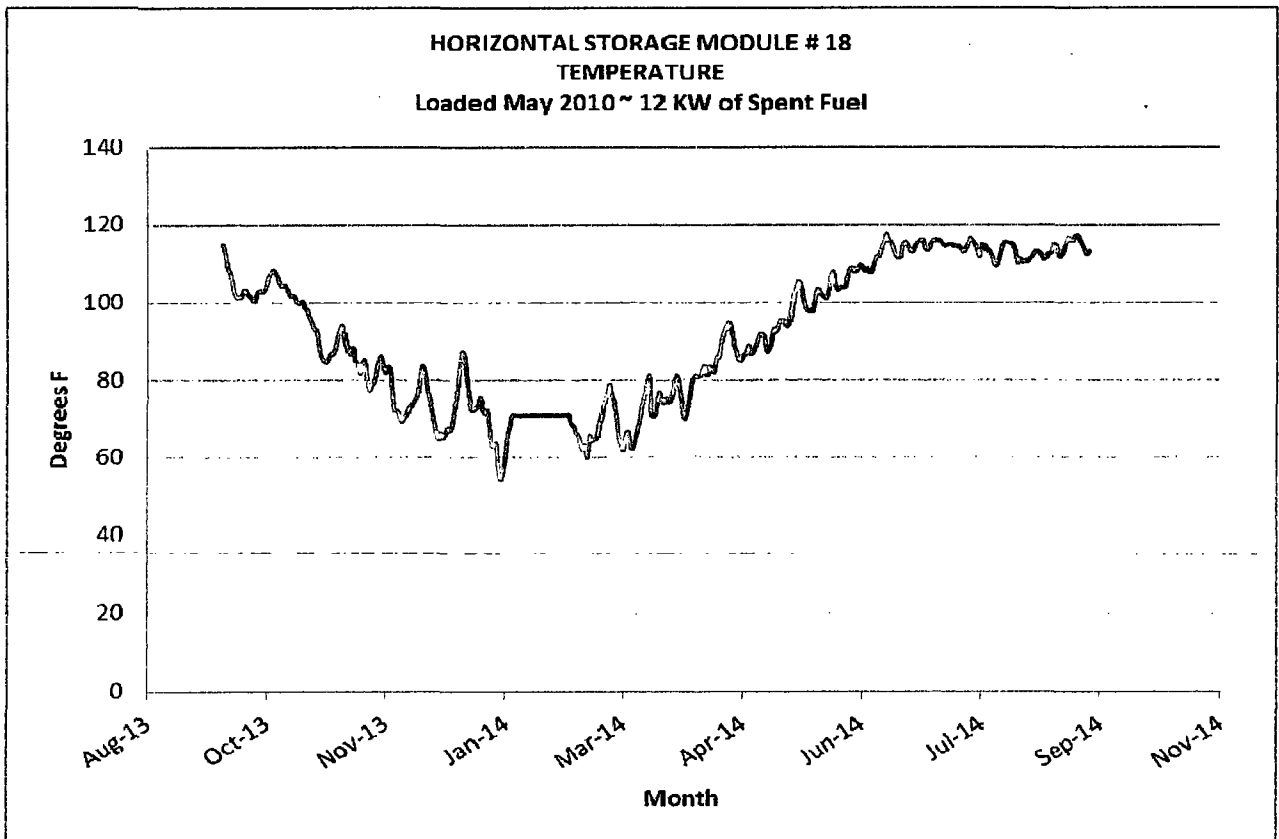
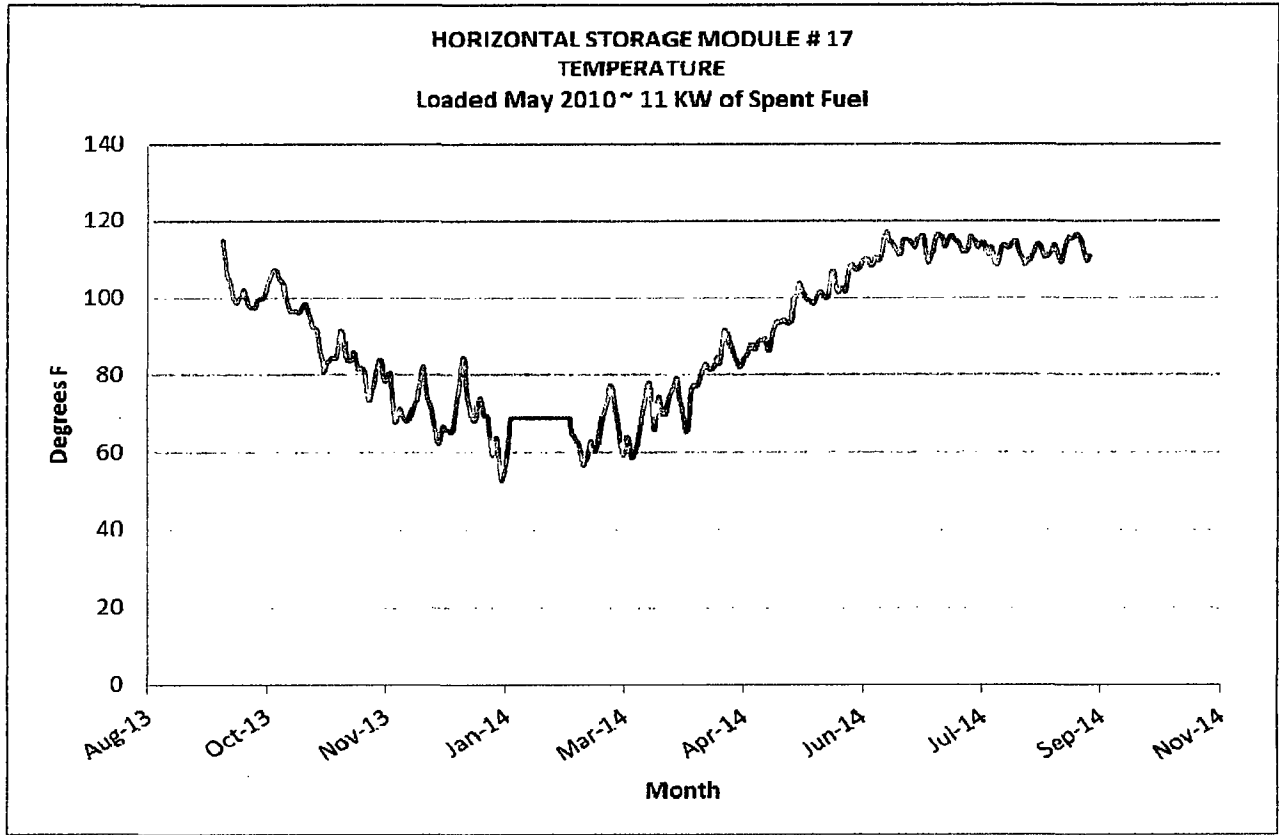
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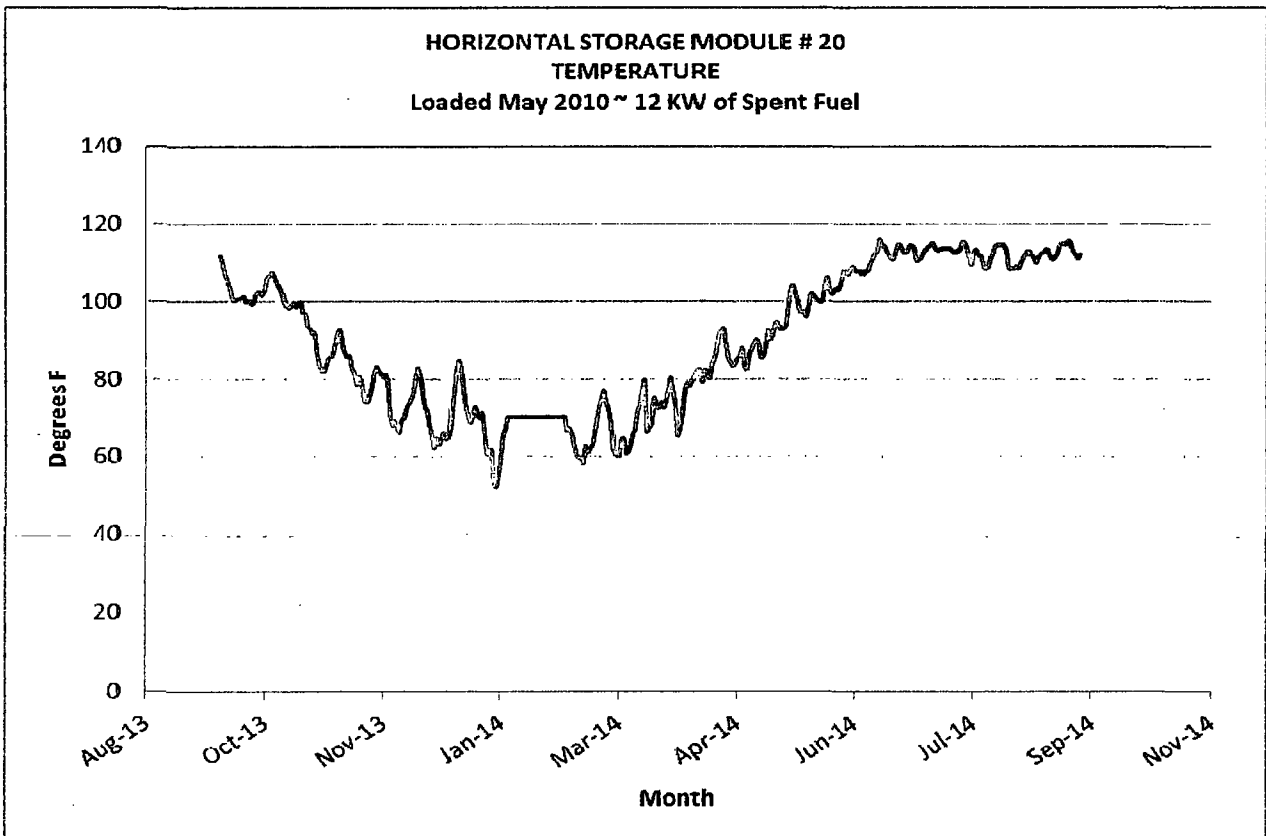
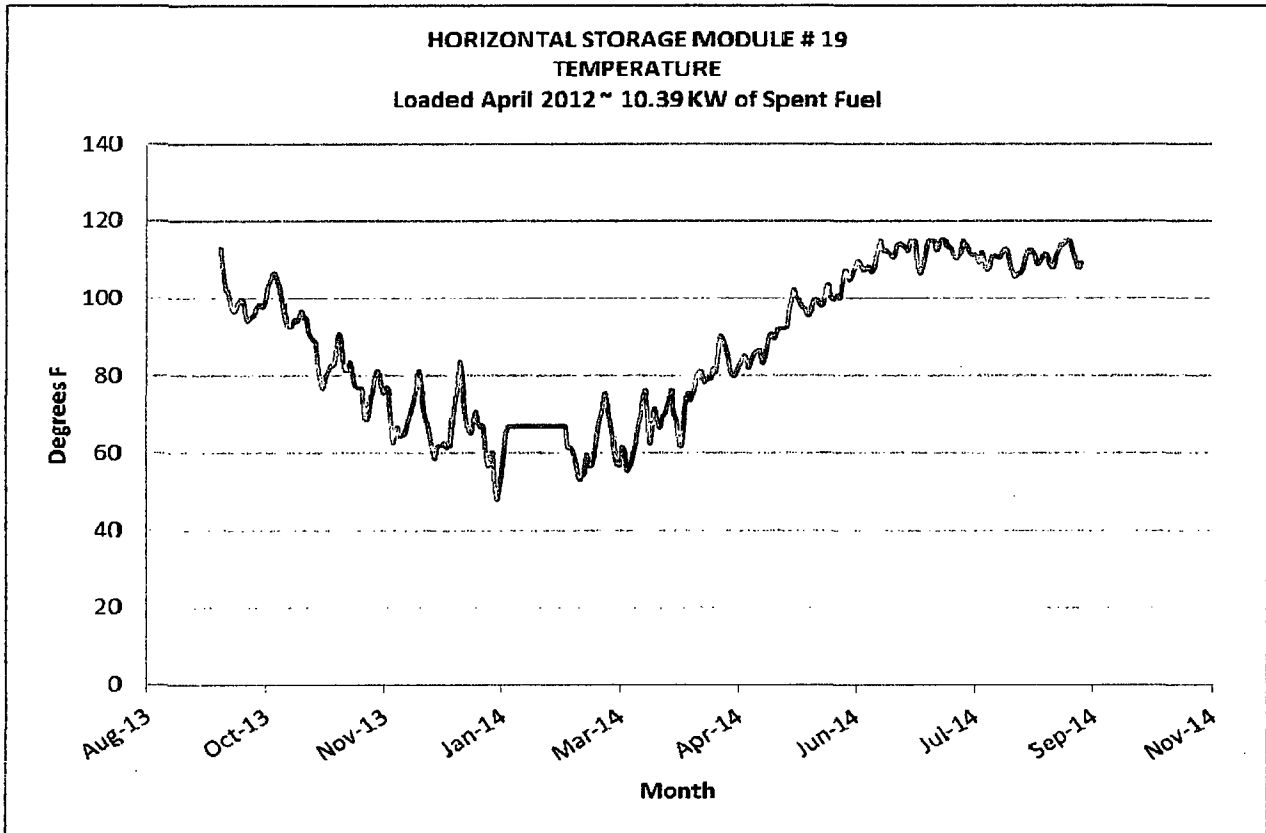
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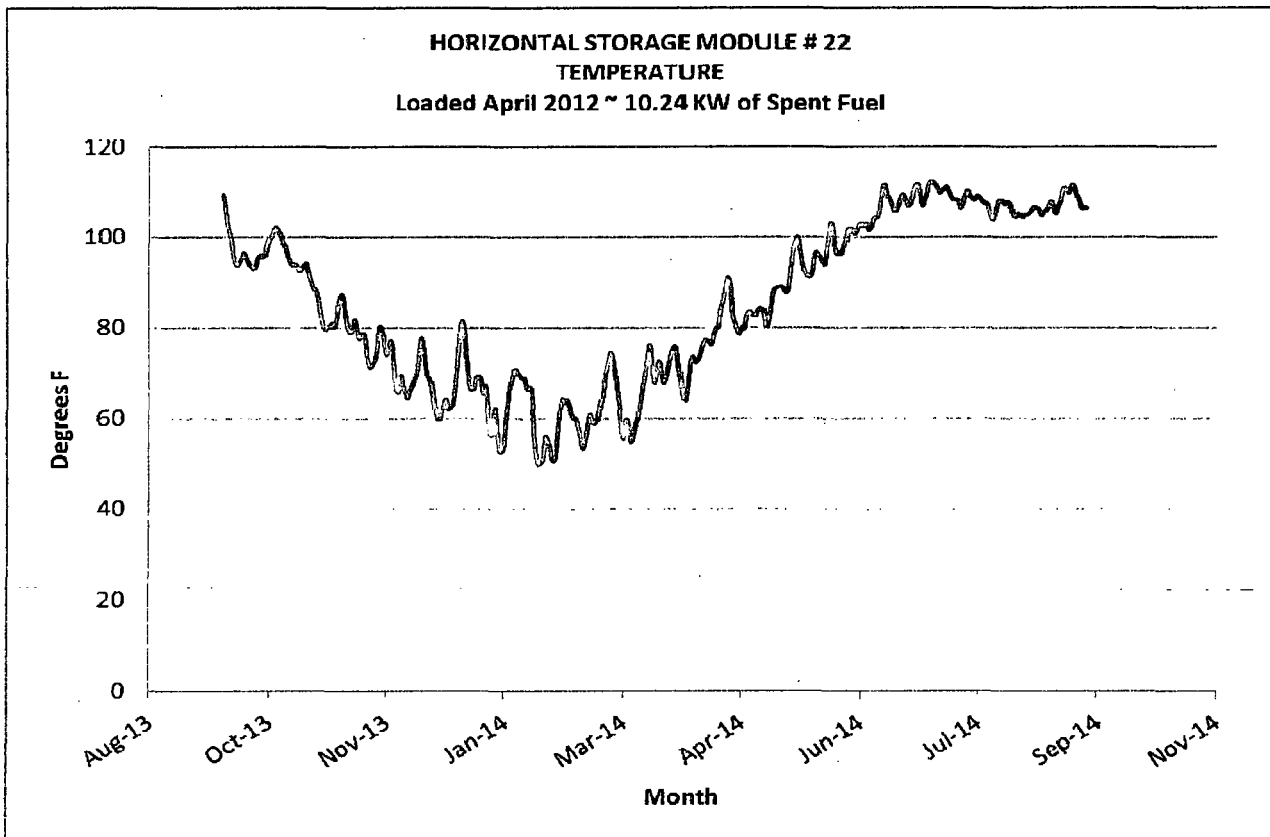
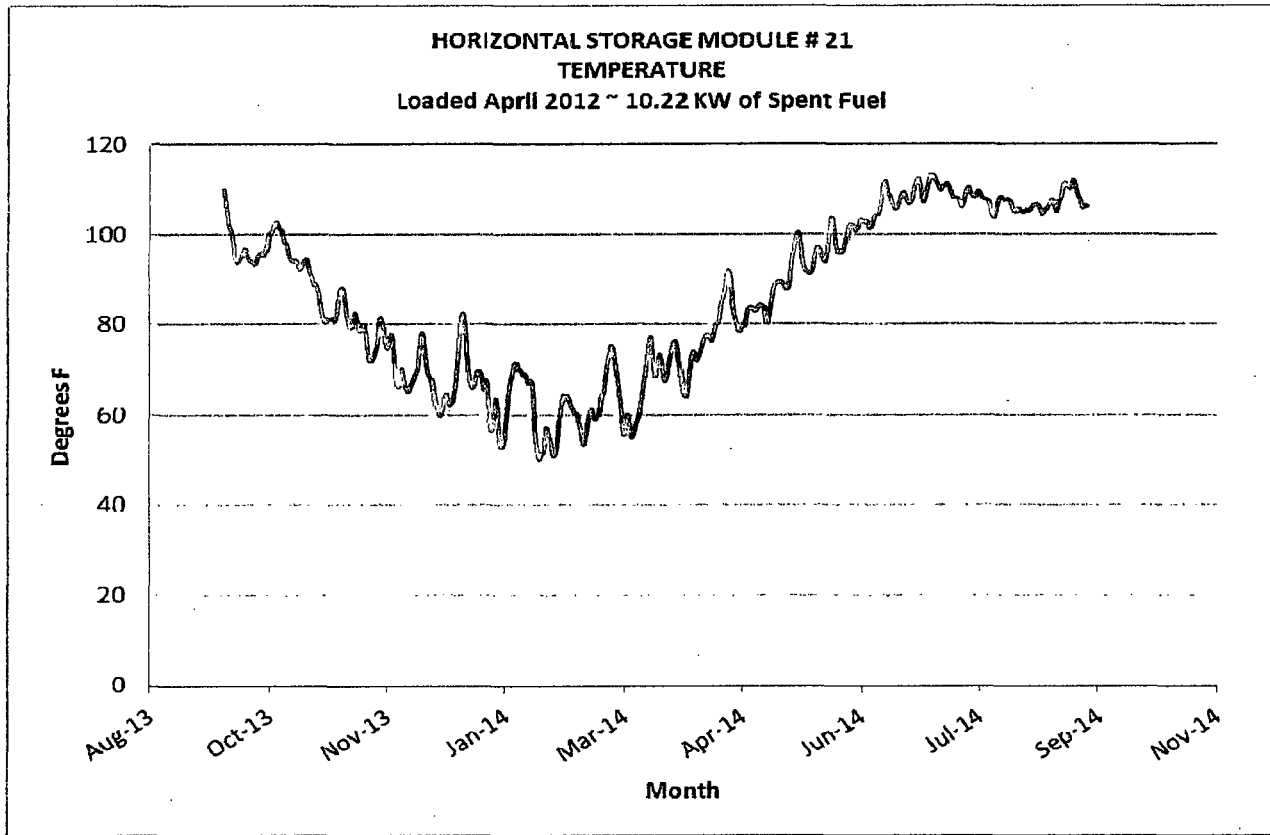
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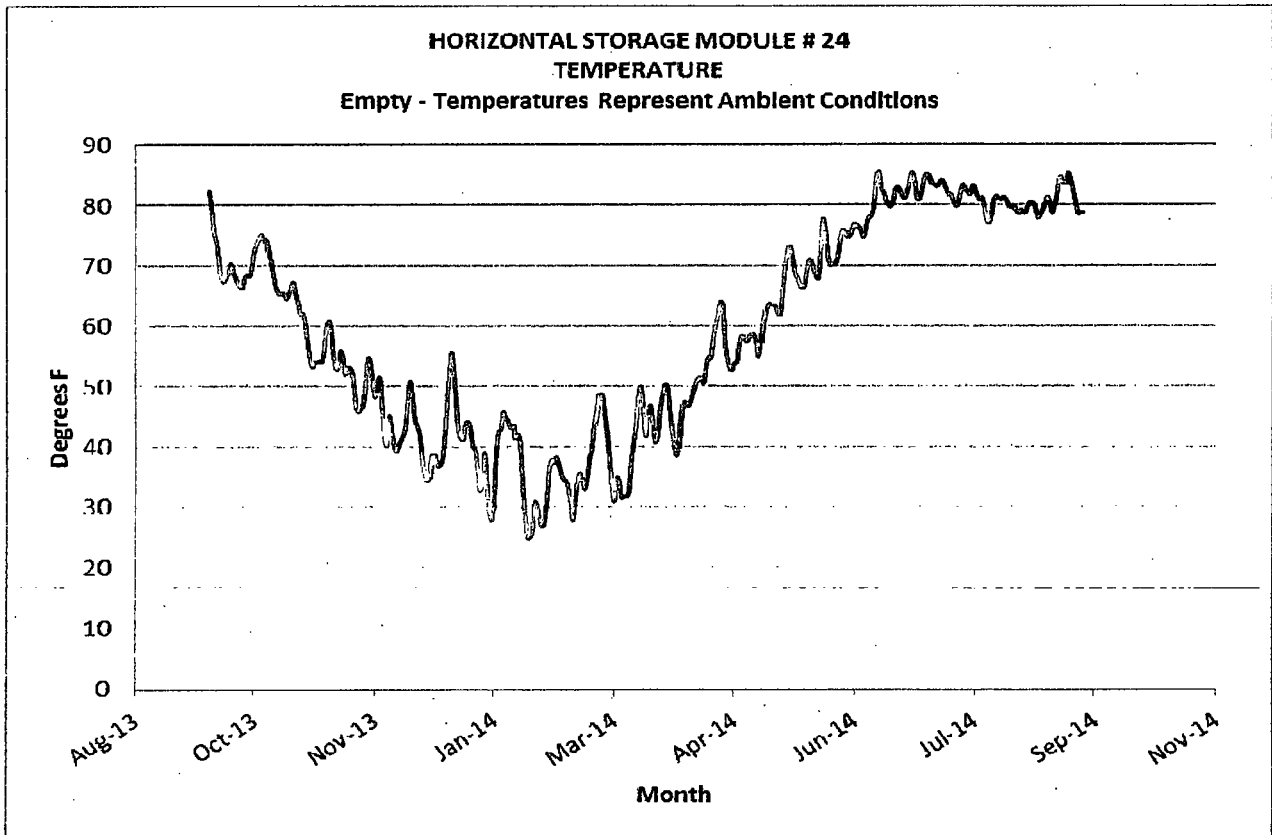
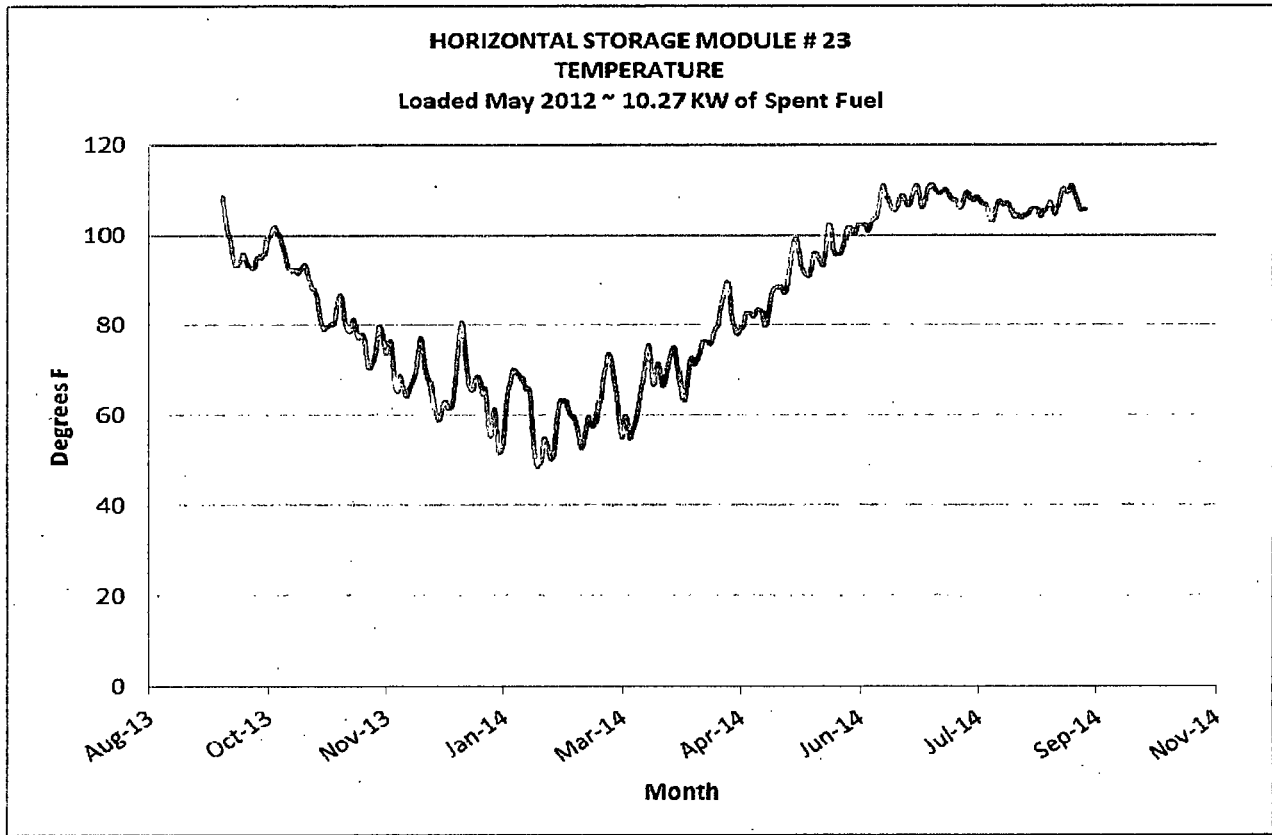
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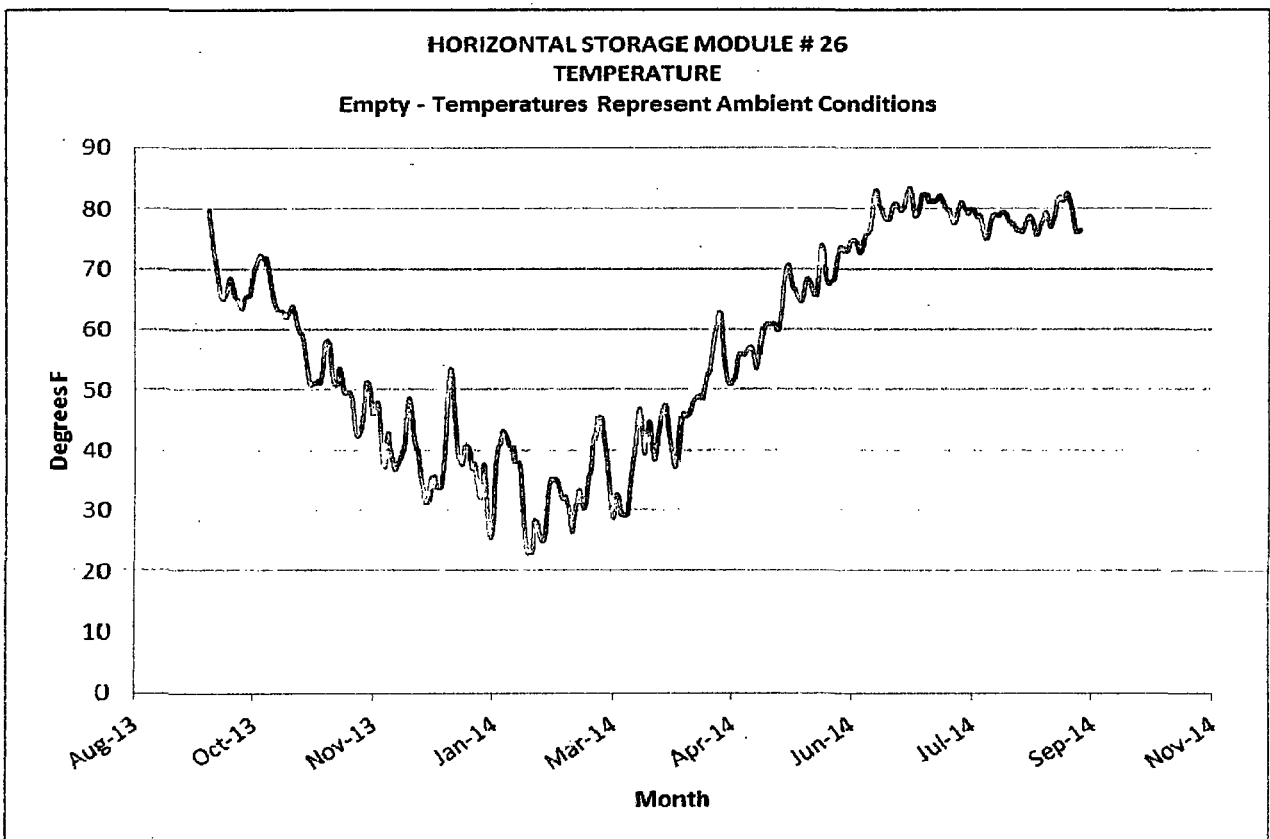
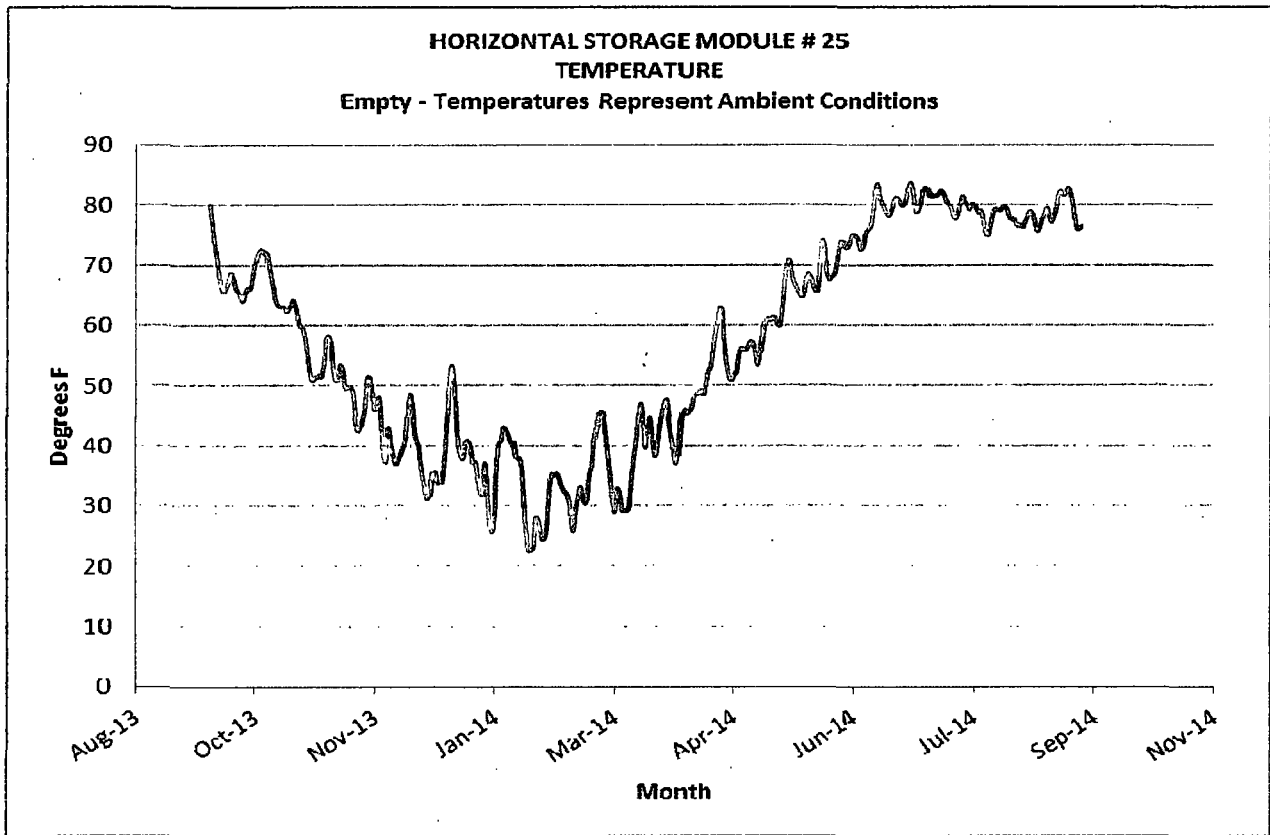


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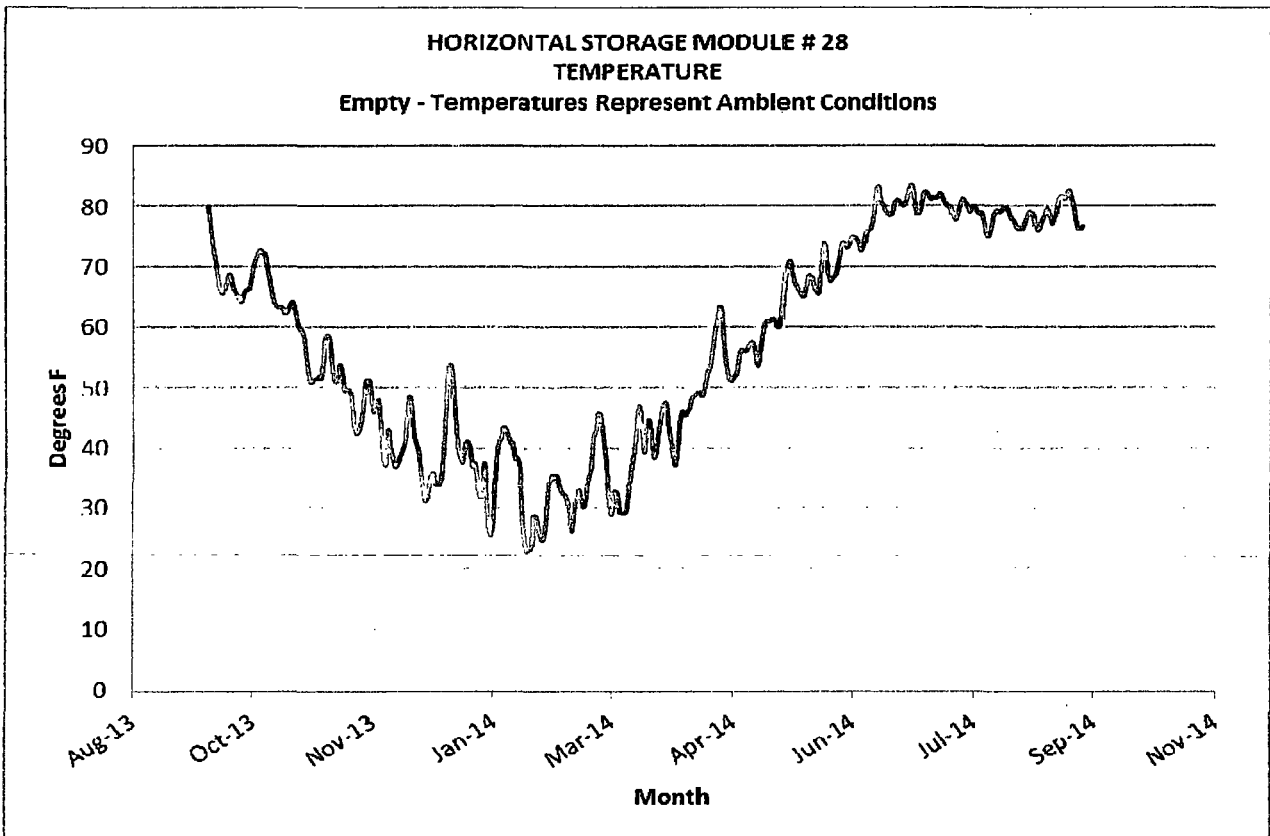
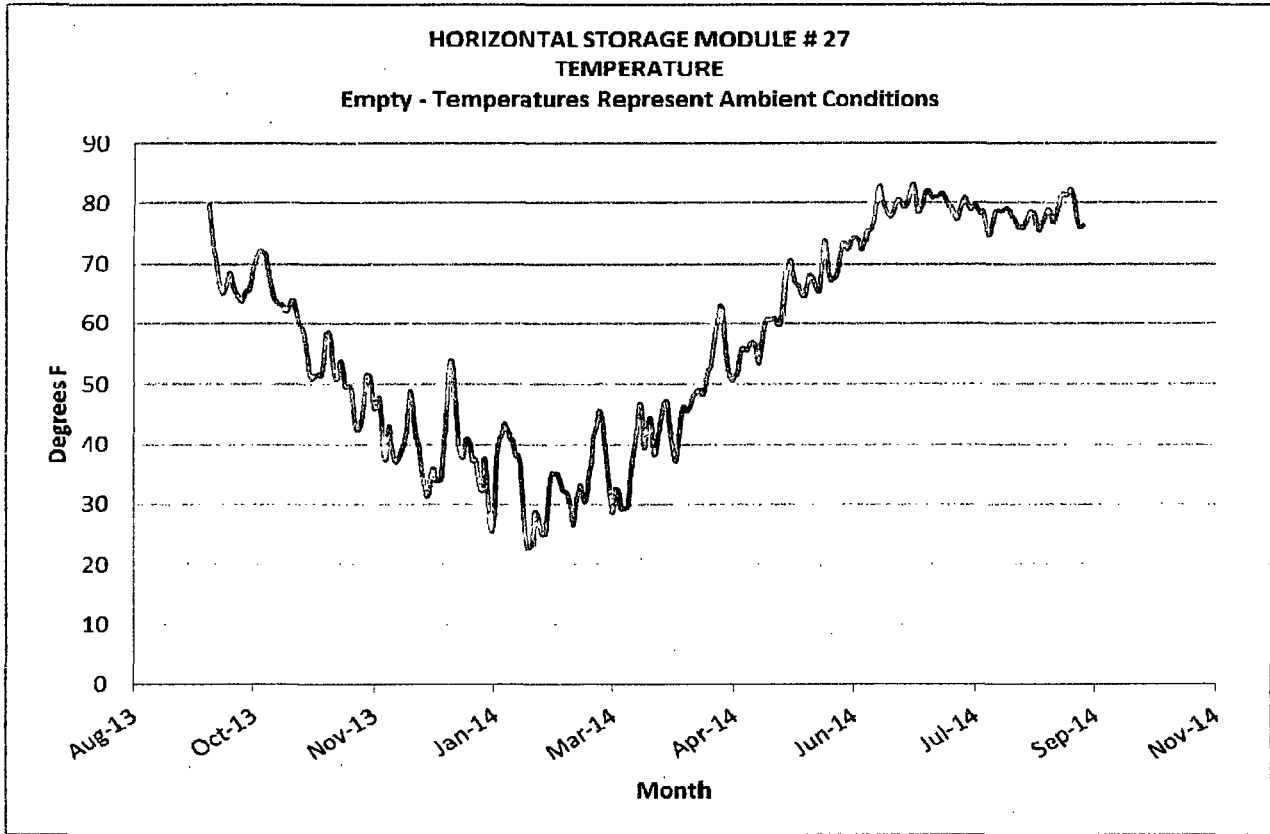




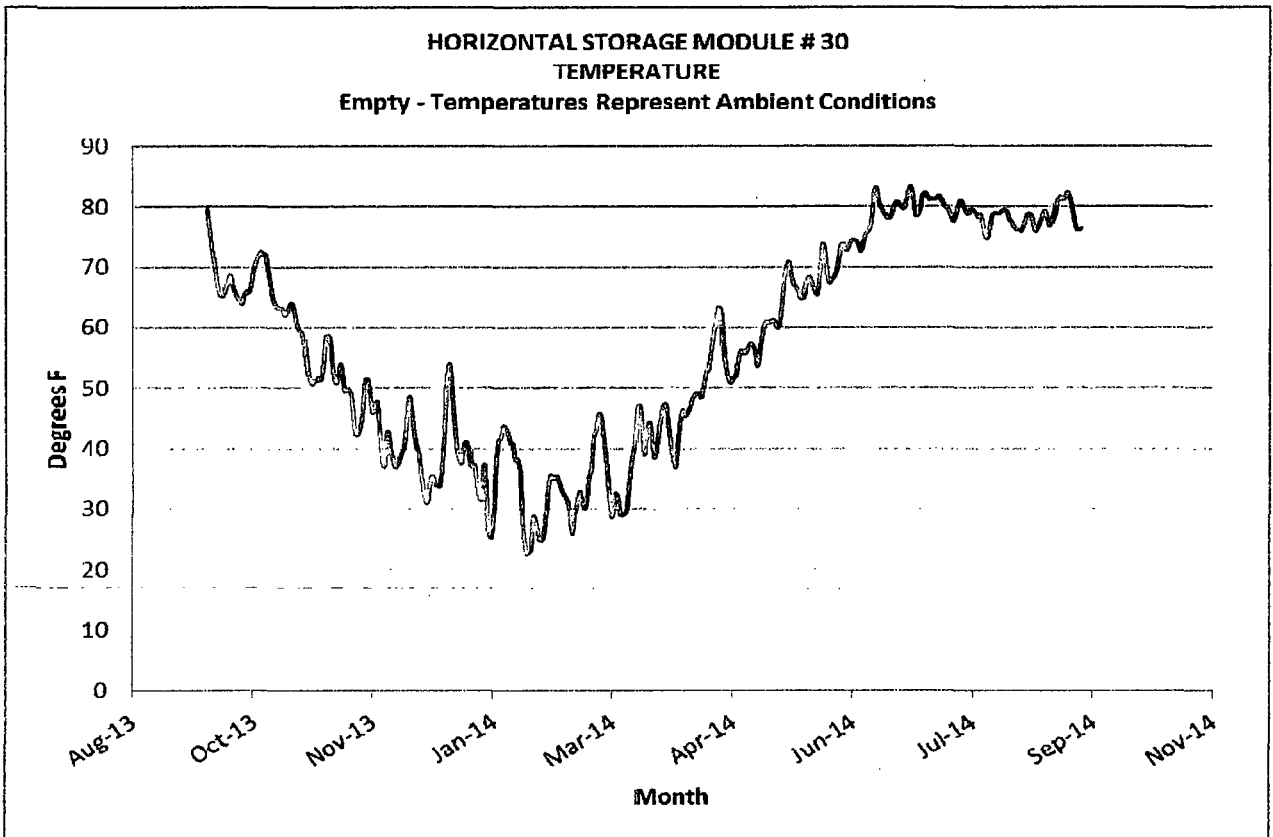
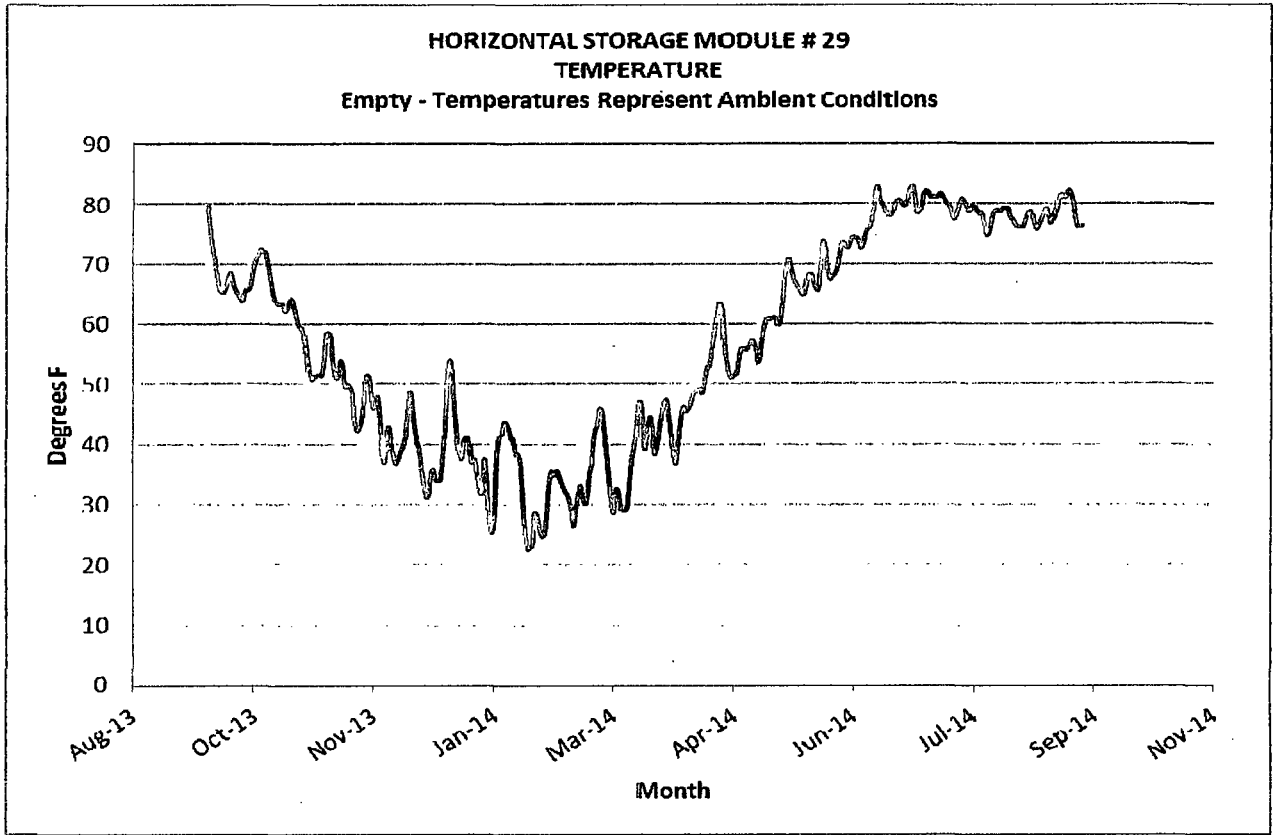
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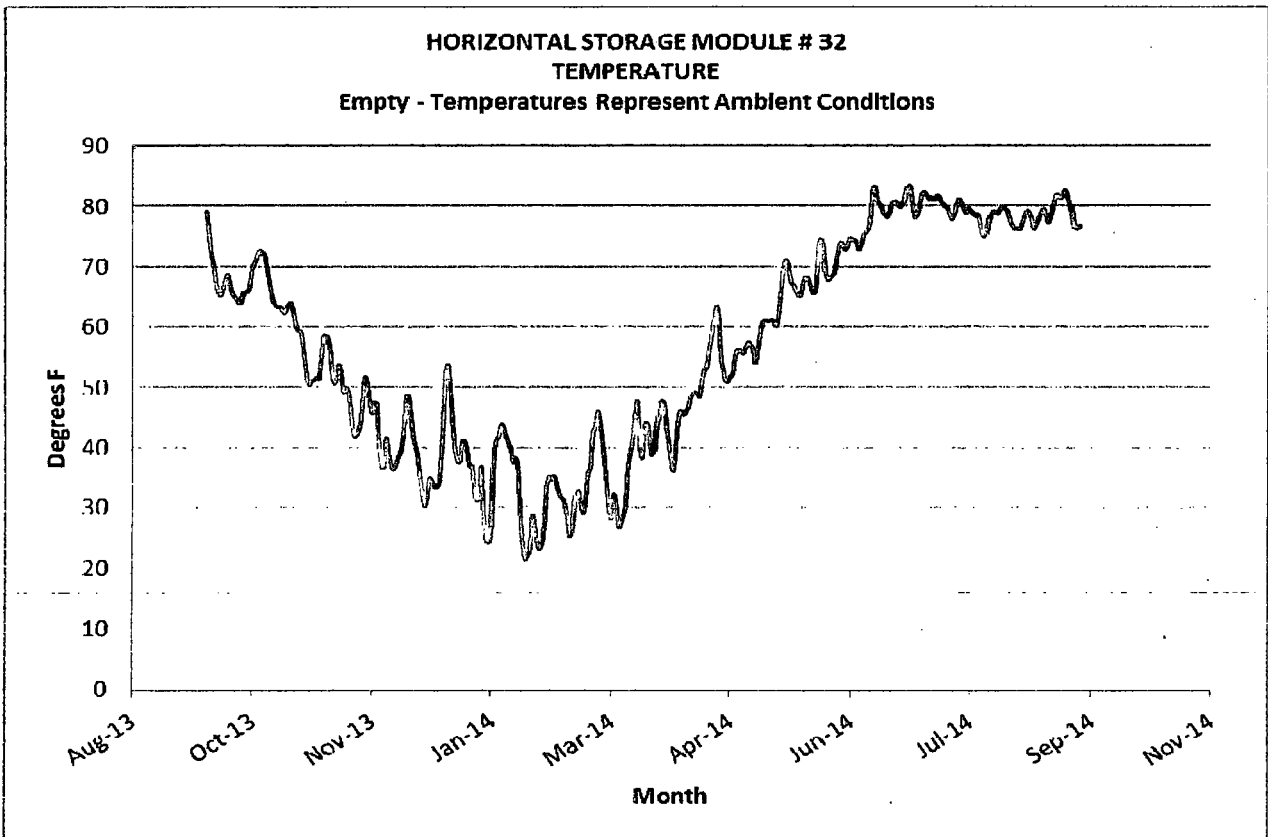
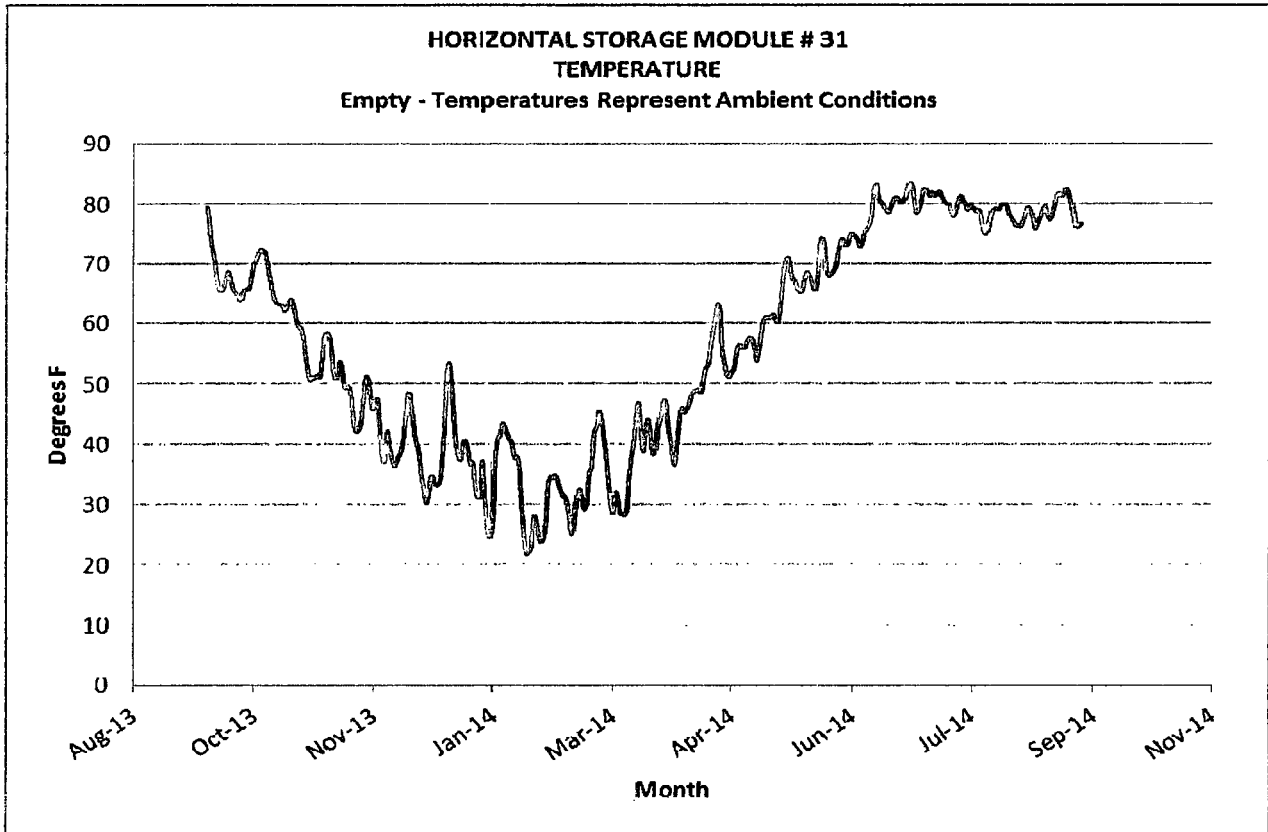
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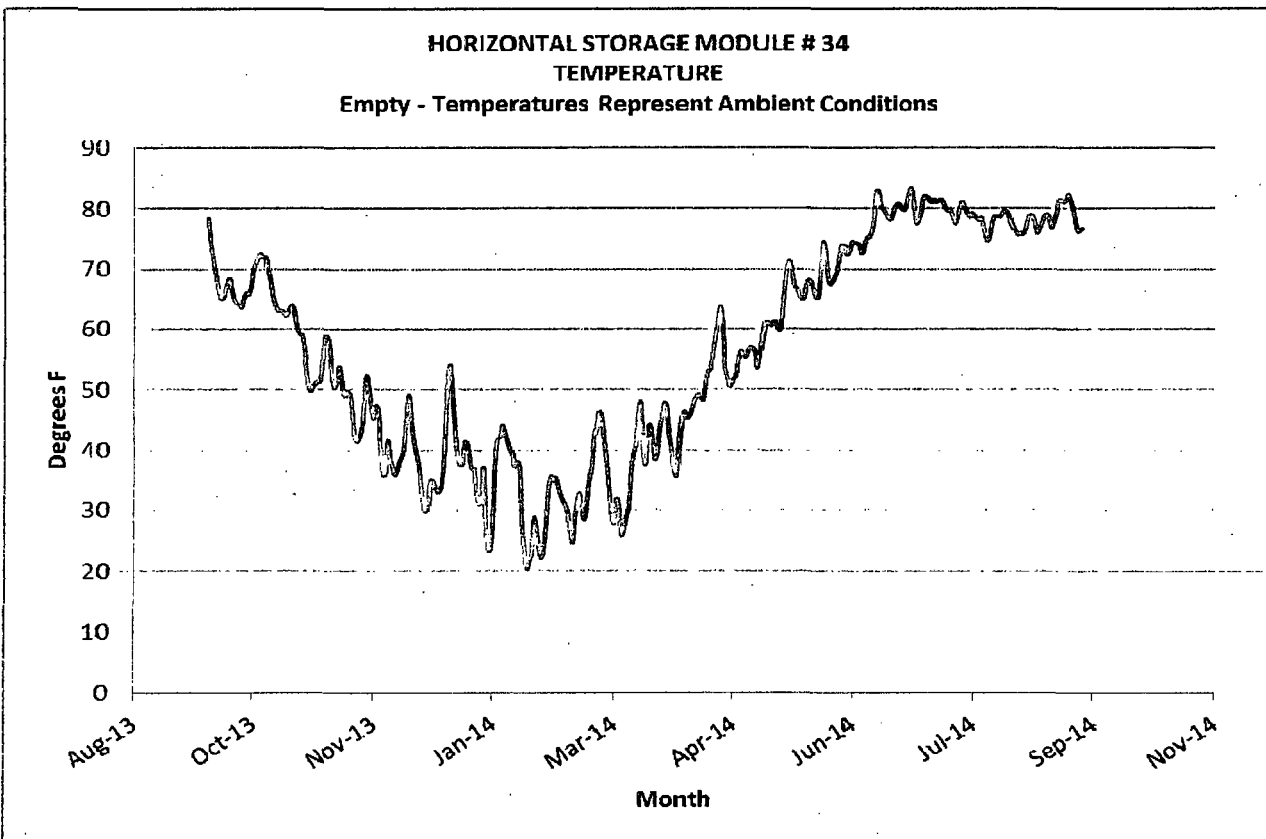
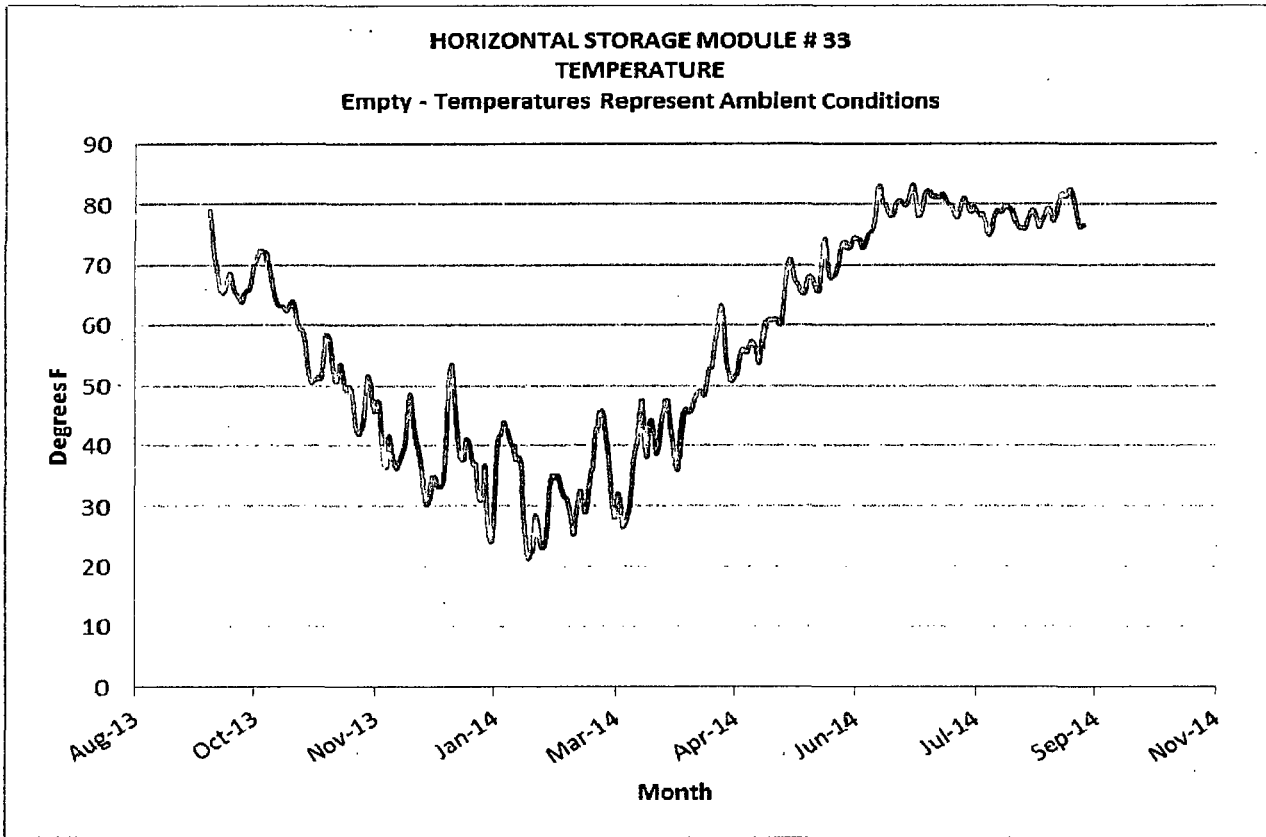
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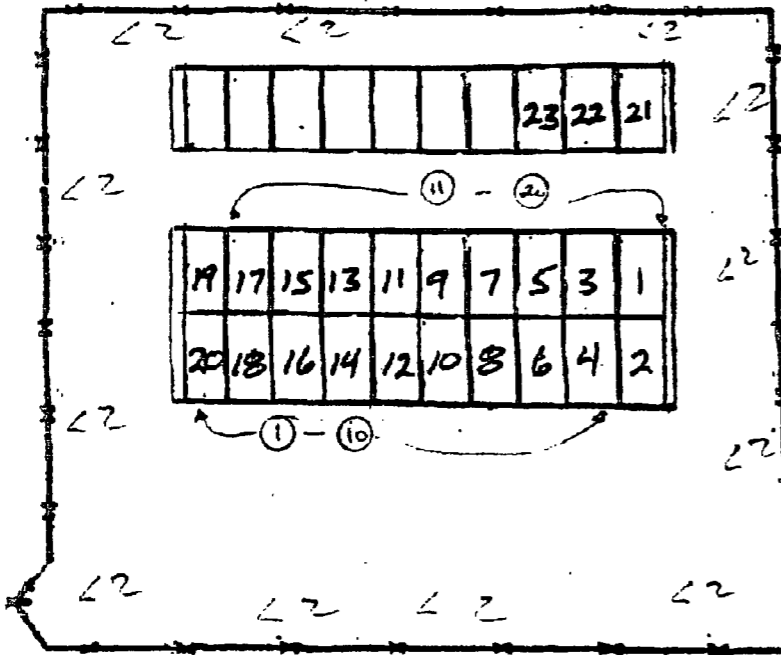


Enclosure 3  
Oyster Creek Nuclear Generating Station  
Independent Spent Fuel Storage Installation  
2014 Radiation Survey

ORIGINAL

OCGS Radiological Survey No. YFS-14-03178 Date 10-27-2014 Time 1425 Location Independent Spent Fuel Storage Facility

22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22
19	17	15	13	11	9	7	5	3	1		
3n/3n	3n/3n	2n/2n	2n/2n	3n/2n	3n/2n	2n/2n	2n/2n	3n/3n	2n/2n		
4n	4n	4n	4n	3n	4n	4n	2n	2n	2n	3n	
2n	2n	3n	2n	2n	3n	3n	2n	2n	2n	2n	
2n	2n	3n	2n	2n	2n	2n	2n	2n	2n	2n	



RWP RP STANDING		Reason ROUTINE Semi Annual	
Rx. Power - N/A			
SMEARABLE CONTAMINATION			
LOCATION	β γ □ CCPM □ DPM □ MRAD/HR	α DPM	AREA
1 HSM VENT SCREENS	< 1K	N/C	100 cm <sup>2</sup>
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20 HSM VENT SCREENS	< 1K	N/C	100 cm <sup>2</sup>

INSTRUMENTATION DATA  
RADIATION SURVEY  
INST R02A  
S/N 079268 BCF 395  
CDD 11-9-2014  
INST ASD1 / RGM RALL  
S/N 07952 / 71023 BCF N/A  
CDD 11-8-2014  
CONTAMINATION SURVEY  
INST E140  
S/N 378761  
CDD 11-4-2014  
EFF 10% BKG 100 CPM  
INST N  
S/N T  
CDD  
CF BKG CPM  
AIR SAMPLE DATA  
FC N/A uCi/cc  
L = Large Area Smear  
NC = Not Counted  
NA = Not Applicable  
NT = Not Taken

Surveyor: (Print Name) H. MADONIA 10-27-14  
Signature: [Signature] Date: 10/27/14  
Reviewer: (Print Name) [Signature] 10/27/14  
Signature: [Signature] Date: 10/27/14

# = Gamma G.A.      ⊗ = Smear  
# B = Beta            DF - Direct Frisk  
# N = Neutron        X-X or - - = Red Boundary  
# / # = Contact / 30 cm    #/# = Beta / γ Contact  
# B / # = β / γ            #/# = Beta / γ 30cm

Hd = Head, Ch = Chest, Kn = Knee, W = Waist  
All dose rates in mrem/hr unless otherwise noted

No Beta Detected Unless Otherwise Noted       No Beta Readings Taken

22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22
20	18	16	14	12	10	8	6	4	2		
2n/2n	2n/2n	3n/3n	3n/2n	3n/2n	2n/2n	2n/2n	2n/2n	2n/2n	2n/2n		
2n	2n	2n	2n	2n	2n	2n	2n	2n	2n	2n	
2n	2n	2n	2n	2n	2n	2n	2n	2n	2n	2n	

REQUIRED SURVEY POINTS KAN 7/9/13  
- HSM door centerline (< 5 m<sup>2</sup>/hr) 1/5 BOX DR  
- END of the SHIELD WALLS (< 10 m<sup>2</sup>/hr) ALINE @ vent position  
- FENCELINE (< 1.6 m<sup>2</sup>/hr)