

72-1004



W. R. McCollum, Jr.
Vice President

Duke Energy

Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672
(864) 885-3107 OFFICE
(864) 885-3564 FAX

September 24, 2001

Director,
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Oconee Nuclear Site
Docket Nos. 50-269, -270, -287
Cask Heat Transfer Report per Certificate of Compliance 72-1004,
Sections 1.1.7 and 1.2.8, for the Oconee Independent Spent Fuel
Storage Installation (ISFSI) Phase IV Load Number 61

In accordance with the subject Certificate of Compliance (CofC) sections, Duke Energy Corporation (Duke) hereby submits the subject report to the Commission. NUHOMS 24P Horizontal Storage Module (HSM) E-31 was placed in service at the Oconee Nuclear Site on September 14, 2001. The total spent fuel decay heat load of the Dry Shielded Canister (DSC) was 17.19 kilowatts (kW), which exceeds the maximum heat load of previously loaded canisters.

The heat transfer characteristics were determined for the loaded HSM as required by the subject CofC. The difference between the average HSM inlet and outlet temperatures was used to calculate a temperature rise. This value was compared to a predicted maximum temperature rise (as a function of average inlet temperature and DSC heat load). The methodology for this predicted temperature rise is documented in the General License Certified Safety Analysis Report for the HSM, and in Trans-Nuclear West calculation NUH004.0420.

The calculated temperature rise for the HSM is plotted with the predicted temperature difference rise for a 17.19 kW DSC in Attachment 1. Temperature measurements and the calculated temperature rise for the first six days of service for the HSM are shown in Attachment 2. Since the equilibrium temperature rises measured do not exceed the calculated values, the HSM and DSC have been verified to be performing as designed.

HMSSOI Public

Rec'd DCD
10/11/01

If there are any questions regarding this submittal, please contact Stephen C. Newman, Oconee Regulatory Compliance Group at (864) 885-4388.

Very truly yours,



W. R. McCollum, Jr.
Site Vice President
Oconee Nuclear Site

cc: U. S. Nuclear Regulatory Commission Document Control Desk

L. A. Reyes, Regional Administrator
Region II

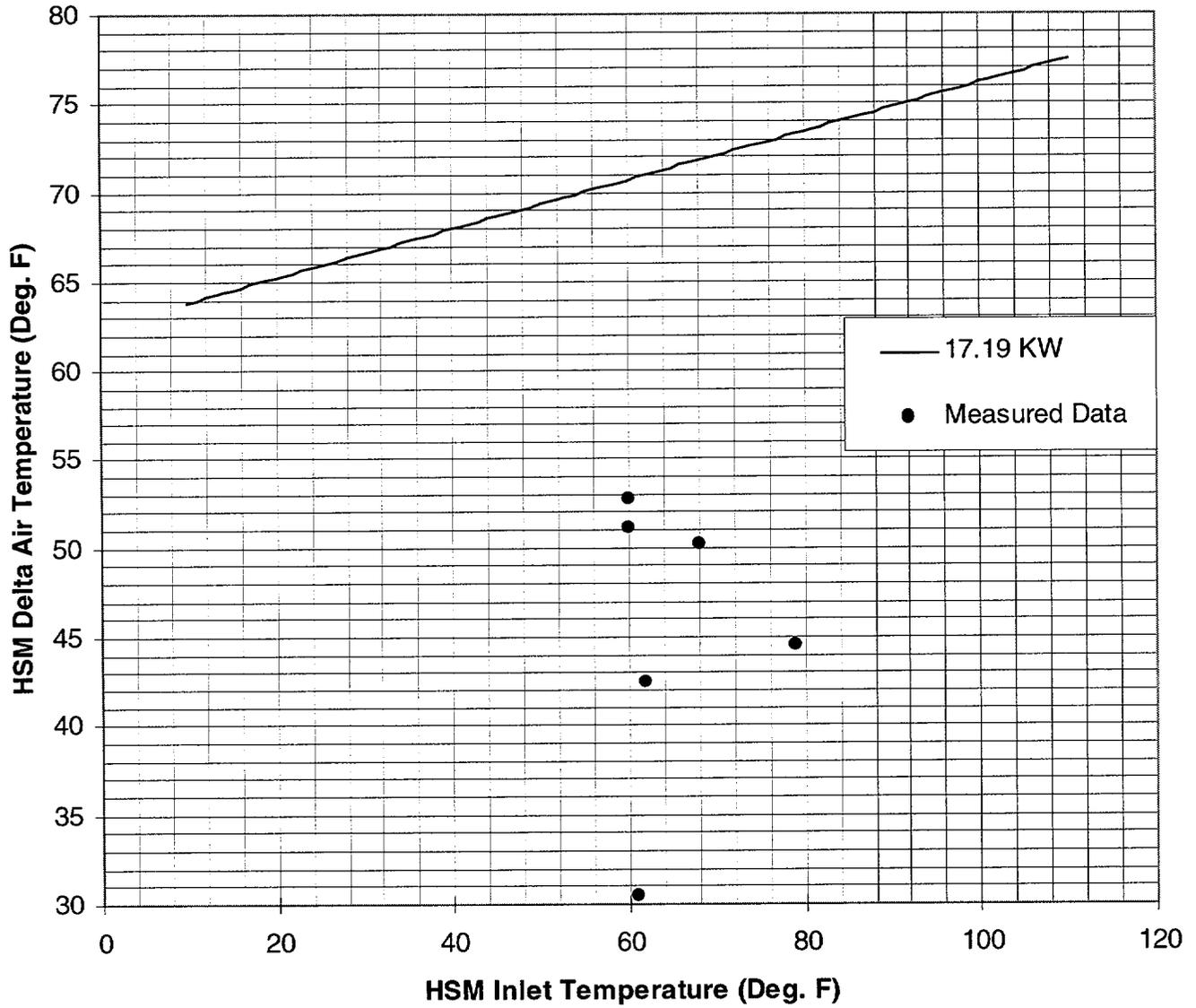
M. A. Scott, Senior Resident Inspector
Oconee Nuclear Site

D. E. LaBarge, Project Manager
NRR

L. Baggett, Senior Project Manager
Mail Stop 16F18
Spent Fuel Project Office

ATTACHMENT 1

HSM E-31 Temperature Rise (calculated vs. predicted)



ATTACHMENT 2

Heat Transfer Characteristics for HSM E-31 at ONS

Date	Avg. Inlet Temperature (°F)	Avg. Outlet Temperature (°F)	Temperature Rise (°F)	Calculated Rise (°F)
9/14/01	79	124	45	73
9/15/01	61	92	31	71
9/16/01	60	113	53	71
9/17/01	62	105	43	71
9/18/01	60	111	51	71
9/19/01	68	119	51	72