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13 October 1978

Mr. Michael Kaltman,
Regional Planner
Regional Impact Analysis Section
Cost-Benefit Analysis Branch
Division of Site Safety and
Environmental Analysis
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Kaltman:

Your letter of August 31, 1978 and maps for the Seabrook alternative site analysis were not sent directly to me at the University of New Hampshire, as requested, but to the Historic Preservation Office in Concord, arriving there September 18. Since late September, after I received the materials, I have had multiple responsibilities away from the office (training programs, field work, etc.) which have made expeditious processing of your request difficult. However, here is the information and, hopefully, in time for your analysis.

Five reactor site locations have been reviewed: Seabrook, the location of current construction; Lamprey Pond, just to the north; Litchfield, on the east bank of the Merrimack River; Moore Pond, on Moore Reservoir and the upper Connecticut River; and, Shelburne, in the valley of the Androscoggin River.

The first three locations are in or adjacent to areas of known or suspected high site density habitats (see Dena Dincauze and Judith W. Meyer, 1977, Prehistoric Resources of East-Central New England, Cultural Resource Management Studies, National Park Service, U.S. Dept. of the Interior, Washington). Although the information upon which the Dincauze and Meyer study is based was compiled primarily by amateurs over decades of unsystematic survey, it is sufficient to project a minimum archaeological site density of .07 per square mile in the Seabrook and Lamprey Pond areas, and 0.14 for the Litchfield area; for some very favorable areas in the Coastal Zone and Merrimack Valley, and Seabrook appears to be one of these, site density is very much higher than that.

We do not have comparable figures for the upper Connecticut and Androscoggin valleys. Overall, site density for the northern part of the State is expected to be lower, but this is an untested assumption. The aboriginal population and prehistoric site densities

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are expected to be less than in the south during the Woodland Period because of the higher elevations and more continental climate which placed severe limitations on agricultural practices during this late prehistoric time. However, early postglacial conditions may have made possible equally high populations and site densities for the earlier Paleo-Indian and Early Archaic Periods.

Among the variables known to have predictive value, and these hold true in all parts of the State irrespective of different regional site densities, are the following: well-drained soils; proximity to running water; exploitable swamps and ponds; stream confluence; preference for higher ranked streams; strong preference for slopes of 8% or less; within 1/2 mile of historic Indian trails and modern roads; and, combinations of these. Given these criteria, Seabrook and Litchfield have a higher sensitivity than Lamprey Pond, among the southern locations. The Shelburne location is more sensitive than Moore Pond, although the proximity of the latter to Glacial Lake Hitchcock has not been factored in.

Site data compiled from the files of the State Historic Preservation Office, New Hampshire Archaeological Society, individual members of the NHAS, and the Manchester Historical Society confirms the high potential of the Seabrook and Litchfield locations. The other areas have not been surveyed, so the absence of confirmed site locations should not be taken to mean there are no archaeological sites in these areas.

The following archaeological sites are known to exist, or to have existed, within the Seabrook area: Seabrook Station, at the present reactor site, NH47-21; Seabrook Marsh, NH47-22; Hunt's Island, NH47-20; and one site now partially buried by the rockpile refuse from the reactor hole, NH47-58. Two other sites, NH47-55 and 56, lie just outside the area. The first three were located by the University of New Hampshire in 1974 under contract to the Public Service Company of New Hampshire, and excavation of these in 1974 and 1975 have provided the first reliable record in the Seacoast area of prehistoric occupation from Late Archaic to Early Woodland (over 4000 years). NH47-58 lies outside the area originally contracted for survey, but is now badly disturbed by rock debris and erosion because of runoff from the rockpile; it is of unknown age, so its significance to an understanding of prehistoric settlement in the area cannot now be estimated. However, its presence together with other sites close by suggest that the Seabrook location has other sites as yet undiscovered.

The Litchfield location lies between two areas of known site concentrations within a two-mile radius. Three sites lie to the north, one of which is nearly 1/3 of a mile long, and another of which has been partially excavated by the NHAS (see the November 1971 issue of The New Hampshire Archeologist, published by NHAS). Three sites lie to the south, again one of which has been partially excavated. These sites all appear to have multi-components ranging from Archaic to Woodland, but it is not clear how they relate to one another. Also, the existing information does not indicate whether the proposed reactor

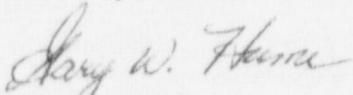


Gary W. Hume, to Michael Kaltman, 13 October 1978, p.3

location has ever been surveyed. Although many sites in the Merrimack valley lie on higher terraces, the well-drained Ondawa sandy loam on a 1% slope opposite the confluence of the Souhegan with the Merrimack makes this a location of high archaeological potential.

Although it is hazardous, I rank the current Seabrook reactor location and Litchfield location as of the highest potential among the alternative site locations; Lamprey Pond and Shelburne locations are of the next highest potential; and, Moore Pond is ranked the lowest in potential. However, further development at Seabrook and any development of the other four areas must be preceded by an archaeological survey, for each of these areas is among the moderate to high probability areas for their region.

Sincerely,



Gary W. Hume
Assistant Professor of Anthropology &
Archaeologist for the NH Dept. of
Resources & Economic Development,
Historic Preservation Office

GH:js

cc: Linda Ray Wilson, Director NH HPO
W. Dennis Chesley, NHAS



August 31, 1978

Mr. George Gilman
Department of Resources and
Economic Development
P. O. Box 856
Concord, New Hampshire

Dear Mr. Gilman:

On August 31, 1978 I spoke with Mr. Gary Hume about the possibility of his supplying information for the Seabrook alternative site analysis which is being conducted by the Commission's staff. Specifically, I would require the following information for Seabrook and four alternative sites, maps of which are enclosed:

- (1) a discussion of existing archeological studies (if any) of all sites; this discussion should include an indication of the archeological significance of findings; and
- (2) a discussion of the sites and immediately surrounding areas (if there are no existing studies) in terms of the potential for unearthing archeological resources and their significance.

At this point, I am only interested in information that is readily available from your files; field surveys and sampling procedures are not necessary. Because of the timeframe imposed on the staff in this case, I would appreciate a response from Mr. Hume within two weeks. If you are in need of further clarification, please call me on (301) 492-7906.

Sincerely,

ORIGINAL SIGNED BY

Michael Kaltman, Regional Planner
Regional Impact Analysis Section
Cost-Benefit Analysis Branch
Division of Site Safety and
Environmental Analysis

Enclosures:
As stated

cc: Linda Wilson
Gary Hume