Frederick H. Norton
1 October 1981

Hansen: I am speaking by telephone to Frederick H. Norton, the first technical employee of the NACA at Langley Field, who now lives in a farmhouse on the edge of Dogtown, Massachusetts. Dr. Norton, how did you come to work for NACA after graduation with a B.S. in physics from MIT in 1918?

Norton: Well, I was always interested in aerodynamic work while I was at MIT and I did quite a little work on the wind tunnel in that place. Then this opportunity came up at Langley Field and I thought it was a very good chance to work out some of the ideas I had.

H: How did you hear of the opportunity?

N: I was contacted, I think, by Dr. Ames, head of the (NACA Executive) Committee at that time. I went down there and I was the first technical employee at Langley. And, I built up a very nice instruments shop there and a model-making shop, and then a little later we had our own planes for free flight testing. I had several test pilots. Things gradually built up. I think we did quite a little wind tunnel work as well as free flight work.

H: Did you arrive at Langley immediately after graduation?

N: I think it was late in 1918, yes.

H: So all of the problems of construction confronted you upon arrival.

N: Yes, I had to take care of the whole thing and build it up, and it was a little difficult for me because I was the youngest person in the whole outfit and yet I had to take charge.

H: How were the relations with the Army on the field?

N: Well, there was a little trouble, but that was not too serious. The most serious thing was taking care of the complaints of the wives of the employees. Some of them wanted a better house and so on and so on. That gave me more problems, I think, than technical ones.

H: In a 1921 photo of the laboratory staff you are standing next to David L. Bacon, another very active early researcher at Langley. Both of you left NACA employment about the same time (1923-24). Do you recall anything about Mr. Bacon? What factors went into your decisions -- two blossoming physicists--to leave NACA work?

N: In his case I really don't recall, but I think he accepted an excellent offer somewhere that he thought was promising. He was a very satisfactory man; his leaving had nothing to do with his work there.

I'll tell you why I left. It was just a political reason. I had to do things in order to satisfy some of the people in Washington that I didn't think were ethical or desirable, and those things kept building up. So,
I finally came to the conclusion that I couldn't live with myself if I stayed there any longer under those conditions?

H: Are you by chance referring to problems with people in the Washington office of NACA?

N: No, it had nothing to do with that. I was one of John Victory's best friends. It was the political pressure. I had to hire as a test pilot a son of a prominent senator, whose name I won't mention. He had such power that if I didn't hire him they would have cut our money off, I'm sure. There were a lot of other things like that. There was such a climate developing, I just couldn't stay there.

H: Would you please describe the early management of the lab? What were the roles of Edward Warner and Leigh Griffith, for instance? How would you delineate their jurisdictions?

N: I would consider Warner more as a consultant at that time. I'd known him very well previously; he was a very able man and he was always a good help to me. Griffith was in charge entirely of the engine work and I had no contact with that in particular. As far as I know, the only field he had his hand in was engine development. I don't think he had anything to do with the aerodynamics.

H: What would you judge to be the most historically significant research performed at Langley in the early Twenties?

N: There was quite a little more work in the aerodynamics than in the engine. I think one of the most important developments was the design and building of instruments to be used in flight testing. You see, previous to that there was very little satisfactory instrumentation. I think that that was one of the important developments. I think these instruments have been used ... even up to the present.

H: You were involved in developing instruments for the tunnel (balances and so forth) as well as flight instruments (photographic recorders and accelerometers, for example)?

N: That's right.

H: Did you work with Henry Reid at all?

N: He was there toward the end of my stay.

H: The original staff was certainly a young one, most of the men in their early to mid-20's. Do you have any thoughts on the reasons for this?

N: Well, aeronautics was a relatively new science and there weren't many of the older people who were familiar with it. Most of the older people at Langley were technical people or in engine work.
April 22, 1981

Dr. Frederick H. Norton was the first technical employee of the NACA at Langley Field. He came to work here straight from MIT with a B.S. in Physics in 1918. I believe he is the only Langley engineer of that period still living. Dr. Norton worked for the NACA from 1918 to 1923 with the title of Chief Physicist. In that period he was the author of over 39 technical reports and articles, some of which you may have seen in the bound volumes of TR's and TN's. He also wrote a monograph entitled, "The Art of Writing Scientific Reports," which is still a good discussion of that subject.

After leaving Langley, Dr. Norton worked for Babcock and Wilcox, and then became a professor of ceramics in the Metallurgy Department of MIT. He received many honors in the ceramics profession before retiring in 1962. His father was a professor of ceramics at MIT before him, which may account for his switch from aeronautics to ceramics.

I wrote to Dr. Norton in 1967 at the time of the 50th anniversary of the Langley Lab. He sent a brief reply, asking to be remembered to Dr. H.J.E. Reid, who was still living at that time.

Hewitt Phillips
M/S 152
Assistant Secretary of Navy Was Passenger On First Test Flight Decade Ago

Of interest here is a recent interview with Edward F. Warner, Assistant Secretary of Navy for Aeronautics on the tenth anniversary of the establishment of the national advisory committee for aeronautics, a government agency devoted to aeronautical research with its principal laboratory at Langley Field.

The tenth anniversary, which fell on March 2, witnessed vast development of the organization's research program, as seen by the assistant secretary of the navy, who was a passenger on the first test flight, ten years ago.

An army Jenny, the famous training type airplane of the army, was used for the first test flight with Lieut. George J. Meyers, then operations officer at Langley Field, as pilot, and Mr. Warner as passenger and director of the flight. Lieutenant Meyers is now in the United States air mail service.

Referring to conditions facing the N.A.C.A. 10 years ago, Mr. Warner said:

"We had neither planes nor pilots. The United States Army Air Corps loaned us planes, and army pilots flew them whenever they could."

There was one building at Langley Field when the committee began its operations: five employees and no quarters. Now, 175 employees conduct the extensive research program of the committee and eight buildings house its activities.

"The first test referred to by Secretary Warner was one of a series of 75 flights covering a period of months for the purpose of determining the drag of a Curtiss Jenny at various angles. To Secretary Warner the flight was especially memorable, because the then exceptional altitude of 6,000 feet was reached. The flight was made February 1, 1919."

Secretary Warner, a graduate of M.I.T., was connected with the committee in 1919 as physicist and director of aeronautical research. He left in 1920 to take charge of the school of aeronautics at M.I.T., one of the first schools in the country to graduate students as aeronautical engineers.

The early activities of the committee were devoted largely to experimenting on types of equipment to be used for aeronautical research, a fact which is in strange contrast with the