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THE ROCKETRY PROGRAM:
INTERCEPT CONTROLLER TRAINING

On-the-Job Proficiency Training

Establishment of a proficiency course for controllers at Yuma was an important innovation in ADC training. Previous to this, the only means of increasing the skill of controllers within the command was on-the-job training. Institution of an OJT program was directed by Headquarters ADC in February 1951 following receipt of an Inspector General report which revealed that many controllers were unfamiliar with the flight characteristics of fighter aircraft under their control and the bombers to be intercepted. The program was subsequently expanded and established in regulation form in August 1952. The Air Division commanders were directed by this regulation to evaluate continuously the proficiency of controllers and to implement a training program designed to correct deficiencies uncovered. To assist the field commanders in evaluating proficiency and in establishing a training program, ADC outlined the minimum knowledge and skill required and directed that a written test be given controllers yearly. Controller training was quite general in nature, however, and wide variances were possible. Unlike aircrew training, there were no specific requirements, such as a number of monthly or annual intercepts to be completed or standards for combat readiness qualification.

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The skill of controllers on the whole never reached the level desired. Inadequate training was partly to blame for this, perhaps, but the major causes were factors beyond the control of ADC, such as personnel turnover. At any rate, a second Inspector General survey, which was made in October 1951, disclosed that the condition was much the same as it had been a year earlier. After tabulating the results of a questionnaire sent to controllers, the IG reported that "some improvement has been accomplished since a similar questionnaire was distributed one year ago, but general controller qualification is still considered unsatisfactory."³ A third IG inspection, conducted early in 1953, showed that the over-all skill of controllers at the time rocket-firing aircraft began to arrive was at about the same level as in 1951. According to the IG report of the 1953 inspection, "the status of training of directors...was very low, less than 50%⁴ of them being considered fully qualified."

Air Defense commanders were certainly well aware of this situation, for the advent of the new concept of the lead-collision course and the absolute requirement for controller skill had brought the deficiency into sharp focus. The need, ADC decided, was to establish minimum proficiency requirements for controllers on the order of those⁵ for aircrew proficiency. Study of the needs was made during 1953 and at the end of December, a new regulation was issued which established a much more specific and comprehensive training program. Included was a minimum number of interceptions to be completed yearly, a ground training program, an extensive outline of knowledge and skill required,

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and instruction for evaluation of proficiency to be made every six months. ⁶ Following issuance of this regulation, in January 1954, ADC prescribed a written examination which was to be given to each controller semi-annually. ⁷

In July 1954, ADC established the requirements for rating intercept controllers combat ready. Only those who had demonstrated their ability to conduct lead-collision course intercepts were to be considered combat ready. The other requirements were as follows: ⁸

- a. Passed the controller-director written examination... with a grade of 100%.
- b. Performed satisfactorily five lead-collision course interceptions...with a minimum score of 32 points...
- c. Performed satisfactorily two lead-collision course interceptions simultaneously...with a score of 30 points...
- d. Have met the pro-rata monthly minimum proficiency requirements for directors...for a period of six months.
- e. Have been evaluated as proficient...

Controllers Proficiency Course

The sudden and complete changeover from gun-armed interceptors to rocket-bearing interceptors and the critical importance that the controller assumed in the success of a lead-collision course attack made it impossible to continue to rely on an OJT program alone. Entirely new techniques had to be learned by the controllers, for the lead-collision course was a complete departure from the old curve of pursuit stern-quarter attack.

Early in 1953, Headquarters ADC told its Western Air Defense Force, which had control of Yuma at the time, to set up a controllers training school at Yuma to teach the specialized techniques of

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lead-collision course intercepts. The proposal made by ADC at that time was that the school should be started early in the year. WADF recommended against starting the school so soon, pointing out that neither personnel nor equipment were available and that there was no reason to get the course going until more units had rocket-firing aircraft.⁹ WADF felt that the beginning of the controller course should be delayed at least until the critical summer period had ended.

ADC Headquarters agreed that the course could not be effective until an adequate number of aircraft and personnel were available and that a delay was in order, but declared that the course had to be ready at the end of summer period: "The importance of the school in aiding our controllers to maintain their proficiency and develop the best tactics and techniques to be employed places a requirement on the command that cannot adequately be fulfilled with measures currently in use or otherwise programmed."¹⁰ October 1, 1953, therefore, was set as the opening date.

As matters turned out, it was not possible to start the course on 1 October. Not all of the personnel had been assigned or all of the equipment installed and tested by that date.¹¹ Further, as discussed earlier, the rocketry firing program could not be started at that time. Finally, the whole program including course outlines, equipment, instructors, etc. had yet to be tried out. The course could possibly have been started on 1 December, but if begun at that time, it would have had to have been broken off during the last part

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of the month for the Christmas holidays. For these reasons, ADC postponed the opening to the first of the year. "The months of November and December," ADC directed, were "to be utilized by the school staff as a 'shake-down' period..."¹² All was in readiness by year's end,¹³ but the start of the course had to be delayed again because of the F-86D grounding. The first class finally got underway on 1 February 1954.

Each class had eight students (except the first which was purposely reduced to four) and lasted two weeks. Eight new students entered each week, making a total of sixteen in training at all times. Eight students was the capacity of each class in the school. Of these eight, four worked with the rocket-firing program and the other four were used for relief or received synthetic training and academic instruction.¹⁴ In the first week of the course, the controllers received briefings on the rocket fire control systems, instruction in tactics and techniques of the ninety degree beam lead-collision course interception,^{15*} synthetic training, and fourteen hours of actual control practice on familiarization (Phase I) missions. During the second week, each student spent sixteen hours

* Because of the many advantages of the ninety degree beam approach, it was specified by ADC. Controllers had considerable difficulty at first, however, in putting the interceptor in a ninety degree beam approach position. One of the causes for this difficulty was the effect of wind masses aloft. A system for allowing and correcting for the wind masses was developed by Colonel Thomas Beeson at WADF and adopted by ADC. The Beeson method was taught by the Yuma controllers course. For a complete description of this method, see document cited in reference note number fifteen.

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controlling target discrimination (Phase II) and actual firing (Phase III) missions, and six hours as a senior director. For the training, all of the facilities normally found at an AC&W site were available.

Authorizations for students to be sent to the Yuma course were made equally to the three Defense Forces. During the period 1 February through the end of June, for example, each Defense Force was authorized fifty-four students.¹⁶ In the first few weeks, as often happens in new programs, authorizations were exceeded or not met in some cases. Also, the directive of ADC to send only the most highly qualified officers was not always observed. In April, ADC Headquarters directed closer compliance with the requirements.¹⁷

As to the extent of training accomplished, 131 controllers were trained from 1 February through 30 June.¹⁸ During this time 8275 interceptions were attempted, of which 6162 were completed.

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