4 September 1969

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Itek Corporation Lexington, Mass. 02173

Dear Sirs:

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Thank you for promptly sending me your "Life-Itek Kennedy Assassination Film Analysis".

I wish to notify you that you are seriously in error in at least one section of your analysis. In light of the matters that I discuss below, I believe that you ought to correct your error at least to the extent of furnishing an addemdum to your report, so that you will not cause your readers to believe something which cannot be true.

In section 2.3 Task C you conclude that, "the 'person' appearing in Willis no.5 and Betzner pictures joined two other persons on the steps by the time the car was at point 313."

Visible in Willis no.5 are two individuals standing on the steps which lead from Elm Steet to the area behind the concrete wall at the top of the knoll. The lower of the two individuals is upper garment which appears to have a bluish tint. Pictures taken after point 313 disclose three individuals, two of whom are those who are visible in Willis no.5. I refer specifically to the films by Mary Moorman, Orville Nix, and Mary Muchmore (You take no conthe matter that you discuss).

The person who is not visible in Willis no.5, but is visible in the pictures taken after point 313, is Emmett Hudson, the groundskeeper of Dealey Plaza. Both Hudson's testimony before the Warren Commission and the nature of the clothes that he was wearing at the time of the assassination conclusively refute your assertion that the 'person' visible behind the wall in Willis no.5 descended the stairs immediately after Willis took his photograph.

Hudson's testimony is located at volume 7,pp.558-565 of the Warren Commission's "Hearings". In the couse of that testimony Hudson informed the Commission that he was standing on the steps for several minutes before the shooting occurred. During that time he was talking with one of the other individuals on the steps. Moreover, even without reference to Hudson's testimony you should have known that he could not possibly be the same as the 'person' behind the wall. The pictures taken after point 313 disclose that Hudson is wearing a white shirt, red jacket, and (especially) a white cap. None of these items of clothing correspond in the least with the clothing worn by the 'person' behind the wall. The person' behind the wall appears to be vearing a very dark colored cost and **Biackxhasdgean** very dark colored

Unquestionably, Hudson is not visible in Willis no. 5, but in light of his testimony and of the sure knowledge that he was wearing very different clothing from the "person" behind the wall, ought you not to consider that in Willis no.5 Hudson is obscured either by one of the individuals on the steps or by the light-post that intervenes between the steps and Willis' camera?

I cannot determine how importantly this bears on the material which you treat in your section 2.1 Task A, wherein you discuss the "facelike image" that is visible in the Moorman photo and in other pictures knich which show the wall keft during and after the shooting. My confusion stems from your failure precisely to designate where behind the wall the "facelike image" is located. I have seen versions of the Moorman photo which show a "facelike image" at precisely the place where the 'person' is located behind the wall in Betzner and willis no. 5. If you are referring to a different location than the one that I have in mind, then perhaps your conclusions, about the "facelike image" are sound. In my version of the Moorman picture, the image that appears just above the south face of the cancrete wall appears to be not merely a "facelike image", but a face. Considering that Betzner and willis no.5 establish that there was a person in that location when the shooting bases, and that that person did not descend the stairs, ixxeen I think it reasonable to assert that the "facelike image" just above the south face of the wall is indeed the image of a

I shall be interested to learn whether you can refute the matters discussed above, and, if you cannot, whether you have the measure of integrity that induces honorable men to admit and to correct their errors.

Yours truly,

Robert Bunati Richard Bernabei

cc. LIFE, Time, Inc., Rockefeller Center, N.Y., N.Y., 10020.

4 September 1969

LIFE Time, Inc. Rockefeller Center New York, N.Y. 10020

Dear Sirs:

Enclosed for your interest is a copy of a letter that I recently wrote to the Itek Corporation concerning their "Life-Itek Kennedy Assassination Film Analysis", of November 1967.

Itek claims that you requested the study. If you paid for the truth, you were robbed.

If it was your intent to obscure the significance of invaluable evidence in the murder of the President, congratulations for your success.

Yours truly.

Richard Bernatri

Richard Bernabei

T SENTRIES IN SPACE

e that a series of photos gned parallel to another t, without any voids. For 's magnetic field can be lization function, but in ole.

ve to be to use infrared ition between the warm s subtended earth angle ocal vertical. These senring Corp. of Stamford, obtained using another

achieve the necessary bit, at an altitude origgher than anything premera. One of the imsolution (i.e., the ability ects) is reduced as the increases, if other facs carried by the highes of approximately 15 nehow be reduced sufied in a satellite, withon, there would autoground resolution from would be found that obtained at an altitude oblem.)

her satellite altitude is nera lens. But this inolem for the puny-size ible. (Until December ble to launch weighed ounds was useful payeveloped the K-30 airgraphy from the side ce pictures of airfields (-30, with its 100-inch reduce size), weighed

HILLIP KLASS. RANDOMM HOUSE 1971 The Promise, and Problems, of Spaceborne Reconnaissance

CRET SENTRIES IN

665 pounds and was bigger than a large office desk! Five more of the giant K-30 cameras were built in the early 1950s by Hycon Co., of Monrovia, Calif., and this subsequently led to the company's participation in the reconnaissance-satellite program.

Two other optical companies, which had been active in developing reconnaissance aircraft cameras, were also brought into the reconnaissance-satellite program by the CIA, which directs the development of the payloads. One of these was Itek Corp., of Lexington, Mass., an outgrowth of an Air Forcesponsored research group at Boston University, which developed an aircraft camera with a remarkable 240-inch lens.

The other was Perkin-Elmer Co., of Norwalk, Conn., which had developed the first 48-inch airborne panoramic-scanning camera for the Air Force.

Beyond the dramatic reduction in camera size and weight for satellite use, the equipment had to be designed for unattended operation in the harsh, cold vacuum of space, for a period of days or weeks. The U.S. had gained a little experience in unattended aerial-camera operation in the late 1940s and early 1950s, when it had tried to use high-altitude balloons and prevailing winds to take photos behind the Iron Curtain. With luck, the balloon-borne cameras would eventually reach friendly shores, and the camera could then be recovered by parachute. But some also had come down before reaching friendly shores-which prompted Soviet protests.

In June 1956, the same month that Lockheed was selected to develop the reconnaissance-satellite vehicle, RAND scientists completed a report proposing a bold new idea for physically returning photos from orbit. The technique was especially attractive for obtaining very high resolution and/or color pictures.

The RAND report, classified "secret," bore the title Physical Recovery of Satellite Payloads: A Preliminary Investigation. It analyzed the problems of protecting heat-sensitive film from the searing temperatures that would be encountered in reentry into the earth's atmosphere at high speed. Techniques were then being developed for ICBMs to protect their nose-cones, containing a thermonuclear weapon, from the same ultra-high temperatures. RAND scientists proposed that

SECRET SENTRIES IN SPACE

on warhead would have only a g out a Russian missile if the silo. But the odds would go up nuteman could hit within one-

t a one-quarter-mile accuracy 1 6,250-mile trajectory, imagine d to try to walk a perfectly ule to where you would find a efully paced off an estimated d looked down to see that the 's away from the tip of your l with an accuracy equivalent .)

that the accuracy of ICBM was being done in the Minuteit, the precise location of each to be known much more acas a major city. This kind of rom satellite photos, but it ra, called a mapping or metric 1 "geometric fidelity," rather The mapping camera is used ted and identified by higher-

as are carefully analyzed to get to some landmark along he measurement is then extil it can be "anchored" to a has previously been estabbe located outside the USSR be established by means of iques. Once the USSR had tion of a newly discovered landmark within the USSR been established. Mapping te 6-inch focal-length lens ew to minimize the number used to relate a new target

Third-Generation U.S. Reconnaissance Satellites

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Ideally, the lens of a mapping camera should look straight down because any obliqueness in viewing angle will introduce geometric distortion. The Agena spacecraft itself, from the earliest days, had been equipped with horizon sensors and a stabilization system to orient its cameras toward the earth. But to achieve the extreme accuracy needed for mapping, it seems likely that the metric camera would simultaneously photograph several stars in the celestial sphere. Later, these star photos would be used to determine the mapping camera's precise vertical angle and to introduce any necessary corrections.

The "damage-limiting" strategy, when applied against hardened Soviet missiles, demands such high accuracy that the film would have to be returned to earth rather than attempt to scan-convert the pictures and transmit them by radio. Furthermore, the temperature of the film would have to be accurately maintained during the mission because a dimensional change of even a few ten-thousandths of an inch would introduce serious errors.

Mapping cameras had been developed some years earlier for aircraft use, and it seems likely that they were adapted and tried in satellites launched during the early 1960s. But the need for ultra-accurate data on the location of Soviet missiles did not emerge until around 1963. If development of a mapping camera specifically for the satellite mission had been started at that time, the first thoroughly tested models would have been ready for operational use around mid-1966, in the third-generation satellites.

Another new sensor introduced operationally in the thirdgeneration recoverable spacecraft was the multi-spectral camera, discussed in Chapter 15. Because of space and weight constraints, the camera probably operated in four bands or at most in six, and was built by Itek Corp., which pioneered in this technology. (A recent Itek Stockholders Report refers cryptically to "continued active participation in strategic reconnaissance.")

The introduction of multi-spectral cameras in reconnaissance satellites should be marked by a change in the time of spacecraft launch from the usual high-noon sun angle. The reason is that the colors reflected from ground objects vary

165