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RELEASE 1 JULY 2015

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MEMORANDUM FOR THE DEPUTY DIRECTOR, MCL

SUBJECT: Designation of MCL as the KH-10 Photographic Reconnaissance Satellite System

The NRO intends to make formal announcement of the MCL DORIAN system in the TALENT-KEYHOLE community, to be designated KH-10. The initial announcement will alert the user community to the capability to be provided by MCL and will include sufficient detail on the camera system to enable the eventual users of MCL photography to plan for submitting their VHR photographic intelligence requirements and for exploiting DORIAN imagery when the system becomes operational.

The NRO will announce the KH-10 to CIA and DIA users. As in the case of previous systems, after initial announcement NPIC will generate a more detailed camera system description containing information which is relevant and necessary from a user viewpoint. NPIC will work closely with whomever you may designate within the Systems Office during generation of the camera manual, and will obtain MCL Program Office concurrence before publishing.

The attached proposed KH-10 system description, which has been discussed informally between Lt Colonel Loret and Colonel Knalle, is being forwarded for Systems Office concurrence and/or comments. As you will note, no distinction between manned and unmanned MCL will be made at this time, nor will the MCL [redacted] capability be revealed under the TK system. It is recognized that the additional information on manned versus unmanned, and [redacted] capabilities will have to be made known to a broad segment of the user community before operations start.

Please have the technical data reviewed for accuracy and forward any comments or proposed changes to us by March 10, along with identification of the Systems Office point of contact to work together with NPIC in generating the more detailed KH-10 camera system manual.

Lt Col Loret/SAFSLO/55674/14Feb69/ams
Copies: SAFSLO
SAFSL Chron
SCG Rd
Gen Berg

JAMES T. STEWART
Major General, USAF
Vice Director, MCL Program

1 Attachment
KH-10 System Description

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KH-10 System Description

Mission Data

Orbit:	80-187 NM; 70-230 min-max
Inclination:	90°, 80°-100° min-max
Repeating Orbit:	7.5 days, nominal
Access:	80° N to 80° S
Perigee Latitude:	55° N, nominal
Velocity:	4.25 NM/sec
V/H Range:	0.0175 - 0.0615 radians/sec

Camera System

Primary Purpose:	Technical Intelligence
Type:	Frame
Resolution:	[redacted] on axis at 80 NM
Coverage:	9100' on axis at nadir
Stereo Limits:	Pitch: 16° forward; 24° aft; Roll: ± 37°
Image Format:	9.4 inches diameter, circular

Lens

Type:	Ross Telephoto
Focal Length:	[redacted]
Lens Aperture:	70 inches
Relative Aperture:	[redacted]
Half Field Angle:	0.54°
Full Field Angle:	1.08°
Mirror Diameter:	70 inches (circular)

Shutter

Type:	Focal plane
Speed:	40 inches/sec
Exposure:	.0025, .0036, .0050, .0070, .0100, .0140, .0200, .0400 seconds
Orientation:	+ 111°
Platen Rotation:	± 60°

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Attachment 1

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Focus

Automatic:	+ 0.002 inches
Range:	0.1 inches
Steps:	50

Primary Film

Width:	9.5 inches
Type:	3404 Equivalent Estar Thin Base Exposure Index = 6
Load:	Approximately 12,400 frames

Secondary Film

Width:	9.5 inches
Type:	SO 121 (Color) SO 180 (Infrared) 3401 (Hi-speed Black & White) 3404 Equivalent or Selected Emulsion
Load:	600 frames each of 121, 180, 3401 1200 frames of selected emulsion

Data Available for Exploitation

Complete MCD, to include:

Ephemeris	Attitude Data
Target Information	Calibration Data
Scale Information	Date Block Information
Camera Data	(Back Up Only)