

2310Z 27 FEB 63

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ROUTING	
1	4
2	5
3	6

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DIRECTOR

[REDACTED]

OSGA (1-2-3-4-5-6-7-8-9-10)

W/C (11)

[REDACTED] *grapher*

ROUTINE

2899Z 28 FEB 63

Declassified and Released by the N R O

[REDACTED]

[REDACTED]

In Accordance with E. O. 12958

WARD

on NOV 26 1997

CITE [REDACTED]

REF: [REDACTED]

THE [REDACTED] EFFORT IS DESIGNED TO DEVELOP SYSTEMS CAPABLE OF DETECTING THE HOLES IN CLOUD LAYERS AND CAPABLE OF TURNING SPOTTING CAMERAS OFF TO SAVE FILM.

2. IT IS ENVISIONED THAT THE L SYSTEM WOULD USE A GROUND COMMAND TO SET CLOUD PERCENTAGE ABOVE WHICH SYSTEM WOULD NOT OPERATE. THE CLOUD PERCENTAGE SETTING WOULD OF COURSE BE BASED ON TARGET PRIORITIES AND KNOWN WEATHER.

3. THERE ARE AT PRESENT TWO TECHNIQUES WHICH ARE UNDER CONSIDERATION:

ONE TECHNIQUE WOULD USE ONE SENSOR VIEWING THE OXYGEN ABSORPTION AT .76 MICRONS AND A SECOND SENSOR VIEWING AN ADJACENT WINDOW BAND. LOW LEVEL SIGNALS FROM THE WINDOW CHANNEL WILL CAUSE THE CAMERA TO CONTINUE OPERATION BECAUSE THE SURFACE CANNOT BE CLOUDS, SNOW OR ICE. IF THE SIGNALS ARE HIGH AND THE RATIO OF THE SIGNALS IS HIGH, THE EQUIPMENT WILL DISTINGUISH BETWEEN SNOW AND ICE AND THE HIGHER CLOUDS AND DETERMINE THE PERCENTAGE OF CLOUD COVER.

Declassified and Released by the N R O

In Accordance with E. O. 12958

~~SECRET~~

GROUP 1
Excluded from automatic
downgrading and
declassification

on NOV 26 1997

THE ISSUING OFFICE IS PROHIBITED.

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[REDACTED]

7. THE OTHER TECHNIQUE WOULD USE THERMAL EMISSIONS IN THE 8-12 MICRON REGION. A SCANNING SYSTEM WOULD COMPARE THE SIGNALS RECEIVED WITH A REFERENCE LEVEL AND EITHER PERMIT CAMERA OPERATION WHEN DISCONTINUITIES APPEAR OR INTEGRATE THE SIGNALS TO PROVIDE THE PERCENTAGE OF CLOUD COVER.

IT IS EXPECTED THAT TEST SENSORS WOULD BE AVAILABLE FOR FIELD TESTS IN 6-9 MONTHS. THIS COULD SUPPORT ANY L PAYLOADS TO BE OVER INTO NEXT YEAR; HOWEVER, IT IS CONSIDERED THAT THIS DEVELOPMENT WOULD INCREASE THE UTILITY OF ANY FILM LIMITED SYSTEM. THIS DEVELOPMENT IS NOT DIRECTLY RELATED TO OR COMPARATIVE WITH THE CURRENT WEFEL FEASIBILITY STUDY BEING CONDUCTED BY ITEK, SINCE THAT STUDY IS DIRECTED AT AN AUTOMATIC EXPOSURE CONTROL SYSTEM IN WHICH THE DETERMINATION OF ABSOLUTE LIGHT LEVELS IS THE OBJECTIVE RATHER THAN DETECTING RELATIVE SIGNALS.

8. IT IS RECOMMENDED THAT THE PROCUREMENT OF THIS DEVELOPMENT BE ACCOMPLISHED IN THE BLACK FOR THE FOLLOWING REASONS:

- A. IT WILL BE MONITORED BY [REDACTED] PROGRAM PERSONNEL.
- B. THERE WILL BE AN INTERFACE WITH THE LANYARD SYSTEM.
- C. THE DEVELOPMENT WILL RELATE DIRECTLY TO SATELLITE [REDACTED] [REDACTED].

IF THERE ARE NO ADDITIONAL QUESTIONS REGARDING THE FOREGOING, IT IS REQUESTED THAT MR. [REDACTED] TRANSFER [REDACTED] FOR THIS TO MR. [REDACTED] FOR CERTIFICATION TO MR. [REDACTED] AT [REDACTED]

END OF MESSAGE