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Classification changed to  
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For \_\_\_\_\_  
(Person authorizing change in classification and date)

By \_\_\_\_\_  
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FM CTE 7,1 ENIWETOK HT  
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*Shepherd*

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[REDACTED] FOR AL GRAVES FROM OGLE PD CITE JULIET  
OSCAR THREE SIX EIGHT PD DID NOT ANSWER YESTERDAYS TWX UNTIL NOW  
SINCE WE HAVE BEEN BUSY MAKING UP TWXS TO DIVISION MILITARY  
APPLICATION PD FOLLOWING IS PRESENT CALCULATIONAL STATUS ON TEAK AND  
ORANGE CLN ALPHA SQUARE WAVE INTERPRETATION OF JULIET DASH ONE  
ZERO CALCULATIONS ON SOURCE IS TO SAY TEAK EMITS TWO MIKE TANGO IN  
THREE ZERO MILLISECONDS FROM A SPHERE OF TWO KILO MIKE RADIUS IN  
WAVE LENGTHS BETWEEN THREE ZERO ZERO ZERO ALPHA AND NINE ZERO ZERO  
ZERO ALPHA PD ORANGE EMITS ONE HALF MIKE TANGO IN THREE ZERO  
MILLISECONDS FROM A SPHERE OF ONE KILO MIKE RADIUS PD THUS  
BRIGHTNESS IS THE SAME PD PARA WE ARE ASSUMING FOR THE EYE AN  
APERTURE DIAMETER OF EIGHT MILLIMETERS AT NIGHT CPM THREE  
MILLIMETERS IN DAY PD PRODUCT OF EXPECTED SPECTRUM PAREN JULIET  
DASH ONE ZERO PAREN AND EYE TRANSMISSION GIVES OVERALL EYE  
TRANSMISSION TO RETINA OF ZERO PNT THREE THREE PD BY EXTRAPOLATION  
RABBIT DATA GIVES FOLLOWING TABLE OF  
END PAGE ONE OF FIVE PAGES

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
DETERMINATION FOR U.S. GOVERNMENT	
1. CLASSIFICATION REFINANCE	
2. CLASSIFICATION CHANGES TO:	
3. CONTAIN NO DOE CLASSIFIED INFO	
4. COORDINATE WITH:	
5. CLASSIFICATION-CONTROLLED	
7. OTHER (SECURITY)	
1ST REVIEW DATE: 4-1-87	AUTHORITY: DAEC ERDC (RAD)
2ND REVIEW DATE: 4-1-87	AUTHORITY: ADD
NAME: [Signature]	

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PAGE TWO OF FIVE

CALORIES PER SQUARE CENTIMETER

OF RETINAL IMAGE SIZE FOR ALPHA THREE ZERO MILES WHEN AS ALPHA FUNCTION  
FIRST NUMBER IS RETINAL IMAGE DIAMETER IN MILLIMETERS CMM SECOND IS  
CALORIES PER SQUARE CENTIMETER TO BURN CLN ONE PNT ONE CMM ONE PNT  
ONE SMCLN ZERO PNT EIGHT CMM ONE PNT SIX SMCLN ZERO PNT FIVE CMM  
TWO SMCLN ZERO PNT THREE CMM TWO PNT FOUR SMCLN ZERO PNT TWO CMM TWO  
PNT EIGHT SMCLN ZERO PNT ONE CMM THREE PNT TWO FIVE SMCLN ZERO PNT  
ZERO FIVE CMM THREE PNT EIGHT PD ALSO NOTED IS THAT BURN LEVEL SEEMS  
TO APPROACH ONE CALORIE PER SQUARE CENTIMETER FOR ZERO TIME PULSE  
INDEPENDENT OF RADIUS PD THIS IS TO BE EXPECTED IF UPTURN AT SMALL  
DIAMETER IS DUE TO COOLING PD PARA BIGGEST PROBLEM HAS BEEN AIR  
ATTENUATION PD AFTER CAREFUL STUDY OF ALL AVAILABLE TRANSMISSION  
DATA CMM INCLUDING STEWARTS CMM AND MUCH ASTRONOMICAL DATA CMM WE  
HAVE TAKEN TRANSMISSION OF ZERO PNT NINE FIVXVHR MILE IN LOWER MILE  
CMM ZERO PNT NINE SIX PER MILE IN SECOND MILE CMM AND TWICE RAYLEIGH  
SCATTERING FROM THERE ON PD THESE ASSUMPTIONS GIVE FOLLOWING  
TRANSMISSION CURVES PD FIRST NUMBER IS DISTANCE FROM GROUND ZERO IN  
STATUTE MILES CMM SECOND IS TEAK TRANSMISSION CMM THIRD IS ORANGE  
TRANSMISSION CLN FIVE ZERO CMM ZERO PNT SEVEN FIVE CMM ZERO PNT SIX  
ONE SMCLN ONE FIVE ZERO CMM ZERO PNT FOUR SIX CMM ZERO PNT TWO ZERO  
SMCLN TWO FIVE ZERO CMM ZERO PNT TWO THREE CMM ZERO PNT ZERO FIVE  
SMCLN THREE ZERO ZERO CMM ZERO PNT ONE SIX CMM ZERO PNT ZERO TWO  
SMCLN FOUR ZERO ZERO CMM ZERO PNT ZERO SIX FIVE CMM ZERO SMCLN FIVE  
ZERO ZERO CMM ZERO PNT ZERO ONE FIVE CMM ZERO PD PARA THESE DATA  
END PAGE TWO OF FIVE

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LEAD TO PREDICTION OF RETINAL BURN AT SEA LEVEL AS FOLLOWS CLM TEAK  
 AT NIGHT CPM FOUR THREE FIVE MILES SMCLN TEAK IN DAYTIME CPM THREE  
 TWO ZERO MILES SMCLN ORANGE AT NIGHT CPM TWO SEVEN ZERO MILES SMCLN  
 ORANGE IN DAYTIME CPM ONE EIGHT ZERO MILES PD INDIA DO NOT CONSIDER  
 THESE NUMBERS OVER PESSIMISTIC CPM BUT RATHER EXPECT TRUE CASE TO  
 BE VERY SIMILAR TO THIS PD THERE ARE NO APPRECIABLE SAFETY FACTORS  
 LEFT CPM WITH POSSIBLE EXCEPTION THAT HUMAN EYE MAY NOT BE AS  
 SENSITIVE AS RABBIT EYE PD PARA HOERLIN AND INDIA HAVE DISCUSSED  
 CONDITION FOR SMALLER YIELD SHOT PD SURFACE BRIGHTNESS PREDICTIONS  
 ARE ESSENTIALLY SAME FOR SMALL SHOT AS LARGE PD ONLY MITIGATING  
 FACTOR IS SMALLER IMAGE SIZE PD HOWEVER LIGHT BURST IS OF SHORTER  
 DURATION PD THEREFORE SUSPECT THAT SAFETY CALCULATIONS WOULD LEAD  
 TO SAME RESULTS QUOTED ABOVE UNTIL DISTANCE GREAT ENOUGH THAT EYE  
 CAN NO LONGER RESOLVE FIREBALL CPM AT WHICH POINT ILLUMINATION  
 CONTROLS AND BURN PROBLEM DISAPPEARS PD FOR FOUR ZERO KILO TANGO SHOT  
 WOULD EXPECT APPROXIMATELY ZERO FNT FOUR MILE DIAMETER FIREBALL  
 WHICH COULD STILL BE RESOLVED AT SOMETHING LIKE FOUR ZERO ZERO MILES  
 PD INDIA WOULD GUESS WOULD HAVE TO GO TO ABOUT TWO KILO TANGO TO BE  
 SAFE AT ONE ZERO ZERO MILES PD PARA YOU ARE CORRECT THAT INDIA HAVE  
 NEGLECTED INDEX OF REFRACTION OF EYE CPM HOWEVER INDIA ALSO USED  
 ALPHA SLIGHTLY SHORTER THAN REALISTIC FOCAL LENGTH SO CORRECTION  
 SHOULD BE SMALL PD CORRECTION IS UNFORTUNATELY IN UNFAVORABLE DIRECTION  
 SINCE THIS INCREASES

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PAGE FOUR RUHEAB 04A

ENERGY DENSITY ON RETINA CMM AND DECREASING SENSITIVITY WITH SMALLER  
IMAGE SIZE IS NOT ENOUGH TO OVERCOME ADDITION PD PARA WE HAVE  
ESTIMATED THAT WE WOULD ONLY GET ABOUT TWO ZERO PER CENT OF DESIRED  
DATA IF TEAK YIELD REDUCED TO FOUR ZERO KILO TANGO PD MOST OPTICAL  
DATA COULD BE OBTAINED CMM BUT ESSENTIALLY ALL OTHER DATA WOULD BE  
LOST PD CANNOT NOW CHANGE POSITION OF PODS AND SANDIA ROCKETS WITH  
RESPECT TO BOMB POSITION PD QUESTION VALUE OF SHOT UNDER THESE  
CIRCUMSTANCES UNLESS IT WERE SOLELY FOR PURPOSE OF OBTAINING THERMAL  
DATA PD PARA DATA LOST IN DAYTIME SHOT IS ABOUT FOUR ZERO PER CENT  
OF THERMAL DATA CMM MOSTLY AT LATE TIMES AND LARGE DIAMETERS PD THIS  
IS ONLY ABOUT ONE ZERO PER CENT OF TOTAL DATA AND WOULD BE ACCEPTABLE  
FOR EITHER SHOT PD PARA PRESENT ESTIMATE OF GROUND ZERO THERMAL IS  
TWO PNT EIGHT CALORIES PER SQUARE CENTIMETER FOR TEAK CMM ONE ONE  
PNT TWO CALORIES PER SQUARE CENTIMETER FOR ORANGE PD TEAK LIGHT  
WOULD BE DELIVERED MUCH FASTER THAN THAT OF ORANGE PD PARA PRESENT  
THOUGHTS ON POSSIBLE ACTION HERE LEAN TOWARD FIRING TEAK AT NIGHT AS  
PLANNED PD WE WOULD PLAN TO ASSURE BY PERSONAL CONTACT WITH ALL  
NATIVES THAT PROBABILITY OF EYE BURN IS VERY SMALL PD TRUST TERRITORY  
OFFICIALS FEEL WE COULD ASSURE OUR SELFS BY EITHER INSPECTION OR  
DIRECTION THAT ALL NATIVES WOULD BE INDOORS AND SAFE AT TWO DASH  
FIVE ALPHA MIKE PD TASK FORCE LEANS TOWARD PERSONAL INSPECTION AND  
IS DEVELOPING CAPABILITY TO CARRY OUT PLAN PD WE ARE TO VISIT  
NUCKER ON THIS TOMORROW PD NO ONE CAN GUARANTEE THAT THERE WILL BE  
ABSOLUTELY NO CASES

END PAGE FOUR OF FIVE

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END PAGE FOUR OF FIVE

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FINAL PAGE OF FIVE PAGES RUHEAB 04A  
OF EYE BURN BUT WE FEEL PLAN IS SAFE PD IF THIS PLAN NOT  
SATISFACTORY WE WOULD PROPOSE TO FIRE ORANGE IN DAYLIGHT TAKING  
SIMILAR PRECAUTIONS OVER A SMALLER AREA PD IF DATA TAKEN THERE SAY  
TEAK IS SAFE COULD THEN FIRE IT PD WE FEEL SECOND PLAN IS ALPHA  
POOR WAY TO GO AT IT CMM SINCE IT DOES NOT CLEARLY LEAD TO ABILITY  
TO FIRE TEAK CMM AND MAY SERIOUSLY JEOPARDIZE TEAK IF WE HAVE ANY  
INCIDENTS PD WE ARE CONVINCED THAT DAYTIME FIRING IS WORSE THAN  
NIGHTTIME JUST BECAUXLALL THE NATIVES ARE UP CMM AND ARE NOT SO  
SUCCEPTABLE TO CONTROL PD LUEDECKE SENDING TWX TO STARBIRD ON THIS  
SUBJECT NOW PD WE STRONGLY PREFER NOT TO REDUCE YIELD PD PRESENT  
PROPOSED DATE FOR TEAK IS APRIL TWO ONE PD NEW SUBJECT PD HAVE  
HEARD NO FURTHER STATIC ON LASL PARTICIPATION IN UNIFORM NOVEMBER  
SHOT OUT HERE PD WOULD APPRECIATE DETAILS PD REF THIS MSG 448-ELK  
END OF MESSAGE

BT

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