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THE JOINT CHIEFS OF STAFF
WASHINGTON, D.C. 20301-5000



**JOINT EXERCISE MANUAL
(JEM)
VOLUME II**

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THE JOINT CHIEFS OF STAFF
WASHINGTON, D. C. 20301-5000

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18 FEB 1986

THE JOINT STAFF

MEMORANDUM FOR: See Distribution

Subject: Joint Exercise Manual (JEM) Volume II

1. This revision of Volume II, Joint Exercise Manual (JEM) supersedes all previous versions, which should be destroyed.
2. Volume II is specifically concerned with residual capability assessment (RECA) during exercises. It describes RECA procedures applicable to exercise player personnel, outlines the duties and responsibilities of exercise RECA controllers, and provides instructions and data for computing damage from a simulated nuclear attack. It supplements the information contained in Volume I, which provides overall guidance for exercise planning, implementation, and evaluation.
3. This memorandum, together with its enclosure, may be released into NATO channels with appropriate NATO markings.
4. This memorandum is regraded UNCLASSIFIED when separated from classified enclosure.

Richard A. Burpee

RICHARD A. BURPEE
Lieutenant General, USAF
Director for Operations

Enclosure
a/s

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UNCLASSIFIED

JOINT EXERCISE MANUAL
(JEM)

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GLOSSARY

AAC	ALASKAN AIR COMMAND
ABNCP	AIRBORNE COMMAND POST
ACE	ALLIED COMMAND, EUROPE
ACEREPS	ALLIED COMMAND EUROPE REPORTING SYSTEM
ACFK	ALTERNATE COMMAND FACILITY, KUNIA
ACP	ALLIED COMMUNICATION PUBLICATION
ADCOM	AEROSPACE DEFENSE COMMAND
ADMINREP	ADMINISTRATIVE REPORT
ADP	AUTOMATIC DATA PROCESSING
AFCENT	ALLIED FORCES CENTRAL EUROPE
AFECC	AIR FORCE EMERGENCY OPERATIONS CENTER
AFM	AIR FORCE MANUAL
AFNORTH	ALLIED FORCES NORTHERN EUROPE
AFOC	USAF OPERATIONS CENTER
AFSOUTH	ALLIED FORCES SOUTHERN EUROPE
AGI (S)	INTELLIGENCE GATHERING SHIP(S)
AH/ERS	ALTERNATE HEADQUARTERS/EMERGENCY RELOCATION SITES
AID	AGENCY FOR INTERNATIONAL DEVELOPMENT
AIG	ADDRESS INDICATOR GROUP
AIRSTAT	OFFENSIVE WEAPONS SYSTEMS AND AIR DEFENSE STATUS REPORT
ALIMREP	ALERT IMPLEMENTATION REPORT
AMA	ALTERNATE MILITARY AUTHORITY
AMF	ALLIED COMMAND EUROPE MOBILE FORCE
AMPS	AUTOMATED MESSAGE PROCESSING SYSTEM
ANMCC	ALTERNATE NATIONAL MILITARY COMMAND CENTER
ANWD	ALPHA NUMERIC WALL DISPLAY
AR	ATRES REPORT
ARFCOS	ARMED FORCES COURIER SERVICE
ARRIVEREP	ARRIVED REPORT
ARRS	AEROSPACE RESCUE AND RECOVERY SERVICE
ARTCC (S)	AIR ROUTE TRAFFIC CONTROL CENTER(S)
ASAT	ANTISATELLITE
ASD (A&L)	ASD (ACQUISITION AND LOGISTICS)
ASD (C)	ASD (COMPTROLLER)
ASD (FM&P)	ASD (FORCE MANAGEMENT AND PERSONNEL)
ASD (ISA)	ASD (INTERNATIONAL SECURITY AFFAIRS)
ASD (ISP)	ASD (INTERNATIONAL SECURITY POLICY)
ASD (PA)	ASD (PUBLIC AFFAIRS)
ASMRO	ARMED SERVICES MEDICAL REGULATING OFFICE
ASR	AIRPORT SURVEILLANCE RADAR
ATBAN	ATOMIC TRANSMITTER BASED ANALYSIS
ATBAR	ATOMIC POSTSTRIKE RESULTS REPORT
ATCOM	COMPILATION OF ATINT REPORTS
ATINT	ATOMIC INTENTIONS REPORT
ATGIN	ATOMIC GROUND INTERCEPT REPORT

ATP	ALLIED TACTICAL PUBLICATION
ATPOS	ATOMIC POSTSTRIKE REPORT
ATREQ	ATOMIC SUPPORT REQUEST
ATRES	RESUME OF POSTSTRIKE RESULTS
ATRON	ATOMIC RECONNAISSANCE CREW BROADCAST REPORT
ATSAR	ATOMIC STRIKE APPROVAL REQUEST
AUTODIN	AUTOMATIC DIGITAL NETWORK
AUTOSEVOCOM	AUTOMATIC SECURE VOICE COMMUNICATION
AUTOVON	AUTOMATIC VOICE NETWORK
AVAILAIR	AVAILABILITY AIRLIFT REPORT
BASEDEV	BASE DEVELOPMENT REPORT
BASEREP	BASE OPERATIONAL STATUS REPORT
BCD	BINARY CODED DECIMAL
BDP	BASE DEVELOPMENT PLAN
BISCLANT	BAY OF BISCAY ATLANTIC AREA
BMEWS	BALLISTIC MISSILE EARLY WARNING SYSTEM
BPS	BITS PER SECOND
C3	COMMAND, CONTROL, AND COMMUNICATIONS
C3CM	C3 COUNTERMEASURES
C3S	DIRECTOR, C3S (COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS), OJCS
C-E	COMMUNICATIONS-ELECTRONICS
C&O	CONCEPT AND OBJECTIVES
CAB	CIVIL AERONAUTICS BOARD
CAC	CURRENT ACTIONS CENTER
CANLANT	CANADIAN ATLANTIC
CAO	COORDINATION OF ATOMIC OPERATIONS
CAO SOP	STANDING OPERATING PROCEDURES FOR THE COORDINATION OF ATOMIC OPERATIONS
CARDA	CONUS ABN RECONNAISSANCE FOR DAMAGE ASSESSMENT
CARIBSEAFRON	CARIBBEAN SEA FRONTIER
CAT	CRISIS ACTION TEAM
CBR	CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL
CCC	CARDA COORDINATION CENTER
CCG	COMMANDANT OF THE COAST GUARD
CCGD	COMMANDER, COAST GUARD DISTRICT
CDRUSASG	COMMANDER, US ARMY SUPPORT GROUP
CEF	CIVIL ENGINEERING FILE
CEL	COMBINED EVENTS LIST
CENTLANT	CENTRAL SUBAREA OF EASTERN ATLANTIC AREA
CESP	CIVIL ENGINEERING SUPPORT PLAN
CGF	CENTRAL GROUP OF FORCES
CGS	CONUS GROUND STATION
CHOP	TRANSFER OF OPERATIONAL CONTROL
CIA	CENTRAL INTELLIGENCE AGENCY
CIC	CONTENT INDICATOR CODE
CIMEX	CIVIL MILITARY EXERCISE
CINCAD	COMMANDER IN CHIEF, AEROSPACE DEFENSE COMMAND
CINCHAN	COMMANDER IN CHIEF, CHANNEL
CINCLANTFLT	COMMANDER IN CHIEF, ATLANTIC FLEET

CINCMAC
CINCNORAD

CINCPACAF
CINCPACFLT
CINCSAC
CINCUSNAVEUR
CIVREP
CJCS
CMC
CNO
COC
COCR
COMAMF
COMFAIRMED
COMICEDEFOR
COMIDEASTFOR
COMINT
COMJARCC

COMNAVFORCARIB
COMOCEANSUBAREA
COMSEC
COMSPOT
COMSTAT
COMTHIRDFLT
COMUKADR
COMUSJAPAN
COMUSJTF
COMUSKOREA
CONPLAN
CONREP
CONSA
CONUS
CONVORD
COOP
COPDAF

COSIN
CP
CPX
CRAF
CRAFREP
CRITICOMM
CRT
CSA
CSAF
CSOD
CSP

COMMANDER IN CHIEF, MILITARY AIRLIFT COMMAND
COMMANDER IN CHIEF, NORTH AMERICAN AIR
DEFENSE COMMAND
COMMANDER IN CHIEF, PACIFIC AIR FORCES
COMMANDER IN CHIEF, PACIFIC FLEET
COMMANDER IN CHIEF, STRATEGIC AIR COMMAND
COMMANDER IN CHIEF, US NAVAL FORCES EUROPE
CIVIL SITUATION REPORT
CHAIRMAN, JOINT CHIEFS OF STAFF
COMMANDANT OF THE MARINE CORPS
CHIEF OF NAVAL OPERATIONS
COMBAT OPERATIONS CENTER
COMMAND OPERATIONAL CHANGE REPORT
COMMANDER, ACE MOBILE FORCE
COMMANDER, FLEET AIR MEDITERRANEAN
COMMANDER, ICELAND DEFENSE FORCE
COMMANDER, MIDDLE EAST FORCE
COMMUNICATIONS INTELLIGENCE
COMMANDER, JOINT AIR RECONNAISSANCE
COORDINATION CENTER
COMMANDER, NAVAL FORCES CARIBBEAN AREA
COMMANDER, OCEAN SUB AREA, US ATLANTIC FLEET
COMMUNICATIONS SECURITY
COMMUNICATIONS SPOT REPORT
COMMUNICATIONS STATUS REPORT
COMMANDER, THIRD FLEET
COMMANDER, UNITED KINGDOM AIR DEFENSE REGION
COMMANDER, US FORCES JAPAN
COMMANDER, US JOINT TASK FORCE
COMMANDER, US FORCES, KOREA
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CHIEF OF STAFF, US ARMY
CHIEF OF STAFF, US AIR FORCE
COMMAND SYSTEMS OPERATIONS DIVISION, OJCS
CRISIS STAFFING PROCEDURES

CV
CVN
CVW
CW
DAO
DASD (A)

DCA
DCAEUR
DCAPAC
DCAS
DCS
DCSC
DDC
DDO
DDO (NMCC)

DEFCON
DEPOPSDEF
DEPSECDEF
DESC
DESCHA
DESCHORD
DFSC
DG
DGZ
DHHS
DIA
DICO
DIRM

DISR
DISUM
DIVERTORD
DJS
DJSM
DLA
DMA
DMSP
DMZ
DNA
DOC
DOD
DOE
DOS
DOT
DPC
DSAA
DSCS
DSEB

AIRCRAFT CARRIER
NUCLEAR AIRCRAFT CARRIER
CARRIER AIR WING
CHEMICAL WARFARE
DEFENS : ATTACHE OFFICE
DEPUTY ASSISTANT SECRETARY OF DEFENSE
(ADMINISTRATION)
DEFENSE COMMUNICATIONS AGENCY
DEFENSE COMMUNICATIONS AGENCY, EUROPE
DEFENSE COMMUNICATIONS AGENCY, PACIFIC
DEFENSE CONTRACT ADMINISTRATIVE SERVICE
DEFENSE COMMUNICATIONS SYSTEM
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DIRECTOR, JOINT STAFF MEMORANDUM
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DEFENSE MAPPING AGENCY
DEFENSE METEOROLOGICAL SATELLITE PROGRAM
DEMILITARIZED ZONE
DEFENSE NUCLEAR AGENCY
DEPARTMENT OF COMMERCE
DEPARTMENT OF DEFENSE
DEPARTMENT OF ENERGY
DEPARTMENT OF STATE
DEPARTMENT OF TRANSPORTATION
DEFENSE PLANNING COMMITTEE, NATO
DEFENSE SECURITY ASSISTANCE AGENCY
DEFENSE SATELLITE COMMUNICATIONS SYSTEM
DEFENSE SHIPPING EXECUTIVE BOARD

DSP
DSSCS

DSTP
DTG
ERT
EA
EAM
EAP
EAUX
EBCDIC

ECCM
ECG
ECM
ECR
E&DCP
EEFI
EFTO
EMAS
EMATS
EMCON
EMERGCON
ENDEX
EOB
EOC
EOP
EPG
ER
ERCS
ESCAT
ESM
ETA
EUR
EW
EXCRIT
EXPLAN
FAA
FCDNA
FEMA
FLT
FMF
FORGEN
FRD
FRN
FTS
FTX
GDR
GENREL
GMT

DEFENSE SUPPORT PROGRAM
DEFENSE SPECIAL SECURITY COMMUNICATIONS
SYSTEM
DIRECTOR OF STRATEGIC TARGET PLANNING
DATE-TIME GROUP
EXECUTION REFERENCE TIME
EMERGENCY ACTION
EMERGENCY ACTION MESSAGE
EMERGENCY ACTION PROCEDURES
EASTERN AUXILIARY
EXTENDED BINARY CODED DECIMAL INTERCHANGE
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FIELD COMMAND, DNA
FEDERAL EMERGENCY MANAGEMENT AGENCY
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FLEET MARINE FORCE
FORCE GENERATION REPORT
FORMERLY RESTRICTED DATA
FORCE REQUIREMENT NUMBER
FILE TRANSFER SERVICE
FIELD TRAINING EXERCISE
GERMAN DEMOCRATIC REPUBLIC
GENERAL RELEASE
GREENWICH MEAN TIME

GSA	GENERAL SERVICES ADMINISTRATION
GWS	GENERAL WAR SUBSYSTEM
HAVREP	HAVEN REPORT
HF	HIGH FREQUENCY
HSD	HIGH SPEED DATA
HUMINT	HUMAN SOURCE INTELLIGENCE
IAW	IN ACCORDANCE WITH
IBERLANT	IBERIAN ATLANTIC AREA
ICBM	INTERCONTINENTAL BALLISTIC MISSILE
IEMATS	IMPROVED EMERGENCY MESSAGE AUTOMATIC TRANSMISSION SYSTEM
IFF	IDENTIFICATION, FRIEND OR FOE
ILS	INSTRUMENT LANDING SYSTEM
INTREP	INTELLIGENCE REPORT
INTSIT	INTELLIGENCE SITUATION REPORT
IRS	INFORMATION REPORTING SYSTEM
J-1	DIRECTOR, J-1 (PERSONNEL), OJCS
J-3	DIRECTOR, J-3 (OPERATIONS), OJCS
J-4	DIRECTOR, J-4 (LOGISTICS), OJCS
J-5	DIRECTOR, J-5 (PLANS & POLICY), OJCS
JABUP	JOINT AIR BASE UTILIZATION PLAN
JAD	JOINT ANALYSIS DIRECTORATE, OJCS
JADREP	JOINT RESOURCE ASSESSMENT DATA BASE REPORT
JAI	JOINT ADMINISTRATIVE INSTRUCTION
JANAP	JOINT ARMY, NAVY, AIR FORCE PUBLICATION
JCC	JOINT COORDINATION CENTER
JCS	JOINT CHIEFS OF STAFF
JCSAN	JOINT CHIEFS OF STAFF ALERTING NETWORK
JCSMC	JOINT CHIEFS OF STAFF MESSAGE CENTER
JDA	JOINT DEPLOYMENT AGENCY
JDS	JOINT DEPLOYMENT SYSTEM
JDSSC	JOINT DATA SYSTEMS SUPPORT CENTER
JECC	JOINT EXERCISE CONTROL CENTER
JECG	JOINT EXERCISE CONTROL GROUP
JECS	JOINT EXERCISE CONTROL SYSTEM
JED	JOINT EXERCISE DIVISION, OJCS
JEEP	JOINT EMERGENCY EVACUATION PLAN
JEM	JOINT EXERCISE MANUAL
JMPAB	JOINT MATERIEL PRIORITIES AND ALLOCATION BOARD
JMRO	JOINT MEDICAL REGULATING OFFICE
JNPE	JOINT NUCLEAR PLANNING ELEMENT
JOC	JOINT OPERATIONS CENTER
JOPEB	JOINT OPERATION PLANNING AND EXECUTION SYSTEM
JOPS	JOINT OPERATION PLANNING SYSTEM
JOPSREP	JOPS REPORTING SYSTEM
JRC	JOINT RECONNAISSANCE CENTER
JRCC	JOINT RESCUE COORDINATION CENTER
JRS	JOINT REPORTING STRUCTURE
JSCO	JOINT STAFF COMMUNICATIONS OFFICE

JSCP	JOINT STRATEGIC CAPABILITIES PLAN
JSOA	JOINT SPECIAL OPERATIONS AGENCY
JSTPS	JOINT STRATEGIC TARGET PLANNING STAFF
JTB	JOINT TRANSPORTATION BOARD
JTF	JOINT TASK FORCE
LANT	ATLANTIC
LAUNCH	LAUNCH REPORT
LERTCON	ALERT CONDITION
LF	LOW FREQUENCY
LOC	LINE OF COMMUNICATION
LOGSITREP	LOGISTIC SITUATION REPORT
LORAN	LONG RANGE ELECTRONIC NAVIGATION
LRA	LONG RANGE AVIATION
LRC	LOGISTIC READINESS CENTER
LSD	LOW SPEED DATA
MAAG	MILITARY ASSISTANCE ADVISORY GROUP
MAB	MARINE AMPHIBIOUS BRIGADE
MAC	MILITARY AIRLIFT COMMAND
MAF	MARINE AMPHIBIOUS FORCE
MAO	MAJOR ATTACK OPTION
MARAD	MARITIME ADMINISTRATION
MARCONREP	MARCONFORLANT OPERATION REPORT
MARG	MARINE AMPHIBIOUS READY GROUP
MAU	MARINE AMPHIBIOUS UNIT
MAW	MARINE AIR WING
MC&G	MAPPING, CHARTING, AND GEODESY
MDWT	MARINE DIVISION WING TEAM
MEECN	MINIMUM ESSENTIAL EMERGENCY COMMUNICATION NETWORK
MERCASREP	MERCHANT SHIP CASUALTY REPORT
MERCO	MERCHANT SHIP CONTROL
MEREPS	MERCHANT VESSEL MOVEMENT REPORTING SYSTEM
MERSHIPS	MERCHANT SHIPS
MFL	MASTER FORCE LIST
MGS	MOBILE GROUND SYSTEM
MIJI	MEACONING, INTERFERENCE, JAMMING, AND INTRUSION
MILINREP	MILITARY INCIDENT REPORT
MILSTAMP	MILITARY STANDARD, TRANSPORTATION AND MOVEMENT PROCEDURES
MILSTRAP	MILITARY STANDARD, TRANSPORTATION REPORTING AND ACCOUNTING PROCEDURES
MILSTRIP	MILITARY STANDARD, REQUISITIONING AND ISSUE PROCEDURES
MJCS	MEMORANDUM IN THE NAME OF THE JOINT CHIEFS OF STAFF
MNC	MAJOR NATO COMMANDER
MOBREP	MOBILE LOGISTIC SUPPORT GROUP REPORT
MOD	MINISTRY OF DEFENSE
MOP	MEMORANDUM OF POLICY
MOVEREP	MOVEMENT REPORT

MSC
MSEL
MTMC
MUNIREP

MW
MWDS
MWO
NAC
NACSIM
NASA
NATO
NAVCOMSTA
NBC
NBC-1
NBC-3
NCA
NCOC
NCS
NCSO
NCSORG
ND
NDERS

NDMS
NDRF
NEACP
NFARS
NIPIR

NLT
NM
NMCC
NMCS
NMIC
NOAA

NOMS
NONARRIVEDREP
NORAD
NORLANT
NPES
NRL
NSA
NSA/CSS

NSC
NSO
NSP

MILITARY SEALIFT COMMAND
MASTER SCENARIO EVENTS LIST
MILITARY TRAFFIC MANAGEMENT COMMAND
WORLDWIDE REPORTING INSTRUCTION -
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MISSILE WARNING DETECTION SYSTEM
MISSILE WARNING OFFICER
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SITE
NATIONAL DISASTER MEDICAL SYSTEM
NATIONAL DEFENSE RESERVE FLEET
NATIONAL EMERGENCY AIRBORNE COMMAND POST
NORAD FORWARD AUTOMATED REPORTING SYSTEM
NUCLEAR IMMEDIATE PHOTO INTERPRETATION
REPORT
NOT LATER THAN
NAUTICAL MILE
NATIONAL MILITARY COMMAND CENTER
NATIONAL MILITARY COMMAND SYSTEM
NATIONAL MILITARY INTELLIGENCE CENTER
NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION
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NUCLEAR PLANNING AND EXECUTION SYSTEM
NUWEP RECONNAISSANCE LIST
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NATIONAL SECURITY AGENCY/CENTRAL
SECURITY SERVICE
NATIONAL SECURITY COUNCIL
NON-SIOP OPTION
NUCLEAR STRIKE PLAN

NTB/TDI

NUCAP
NUCSTAT
NUCWA
NUDET
NUDIS
NUREP
NUWEP
NWP
NWSB
OB
OCA
OCR-EMERG

OCSA/ADV

ODCR
OET
OGS
OJCS
ONPG
OPCON
OPG
OPLAN
OPNAV
OPORD
OPREP
OPSCOM
OPSDEPS
OPSEC
OPSUM
OSD
OSIS
OSS
OT
OTC
OTH
PAC
PACCS
PACFLT
PAL
PAR
PAS
PEADS
PERSREP
PIM
PLA
POE
POL
POLCAP

NATIONAL TARGET BASE/TARGET
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NUCLEAR WEAPONS EMPLOYMENT POLICY
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NUCLEAR WARFARE STATUS BRANCH, OJCS
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OFFICE, CHIEF OF STAFF, ARMY, ADVANCE
OPERATIONS DEPUTIES CONFERENCE ROOM (NMCC)
OFFICE OF EMERGENCY TRANSPORTATION
OVERSEAS GROUND STATION
ORGANIZATION OF THE JOINT CHIEFS OF STAFF
OPERATIONAL NUCLEAR PLANNING GROUP
OPERATIONAL CONTROL
OPERATIONS PLANNERS GROUP
OPERATION PLAN
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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PEOPLES LIBERATION ARMY
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PETROLEUM, OIL, AND LUBRICANTS
POL CAPABILITIES REPORT

POMCUS	PRE-POSITIONED OVERSEAS MATERIEL, CONFIGURED TO UNIT SETS
PORTSUM	PORT SUMMARY
PRC	PEOPLES REPUBLIC OF CHINA
PSYOP	PSYCHOLOGICAL OPERATIONS
PSYWAR	PSYCHOLOGICAL WARFARE
PW	PRISONER OF WAR
PWRS	PRE-POSITIONED WAR RESERVE STOCK
RAD	RADIATION
RAP	REMEDIAL ACTION PROJECT
RCA	RIOT CONTROL AGENTS
RCC	RECONNAISSANCE COORDINATION CENTER
RCC	REGION CONTROL CENTERS
RDD	REQUIRED DELIVERY DATE
READYREP	OPERATIONAL READINESS REPORT
RECA	RESIDUAL CAPABILITY ASSESSMENT
RECAT	RESIDUAL CAPABILITY ASSESSMENT TEAM
RECLAU	RECONNAISSANCE LAUNCH REPORT
RECON	RECONNAISSANCE
RECONT	RECONNAISSANCE INTENTIONS REPORT
RECREP	RECONNAISSANCE REPORT
REDREC	REDIRECTION AND RECONSTITUTION
REPOL	PETROLEUM DAMAGE DEFICIENCY REPORT
REPTOFS	REPORTING OFFICER
RF	RADIO FREQUENCY
RISOP	RED INTEGRATED STRATEGIC OFFENSIVE PLAN
RMS	RESOURCE MONITORING SUBSYSTEM
RNO	REGIONAL NUCLEAR OPTION
ROE	RULES OF ENGAGEMENT
ROK	REPUBLIC OF KOREA
RRM	RED RESOURCE MONITOR
SAA	SINGLE AGENCY ACTION
SAC	STRATEGIC AIR COMMAND
SACCS	SAC AUTOMATIC COMMAND AND CONTROL SYSTEM
SACEUR	SUPREME ALLIED COMMANDER EUROPE
SACLANT	SUPREME ALLIED COMMANDER ATLANTIC
SAILEDREP	SAILED REPORT
SAILORD	SAILING ORDER
SANGUINE	EXTREMELY LOW FREQUENCY COMMUNICATIONS
SAO	SELECTED ATTACK OPTION
SAR	SEARCH AND RESCUE
SCATANA	SECURITY CONTROL OF AIR TRAFFIC AND NAVIGATIONAL AIDS
SCI	SENSITIVE COMPARTMENTED INFORMATION
SECDEF	SECRETARY OF DEFENSE
SECSTATE	SECRETARY OF STATE
SELREL	SELECTIVE RELEASE
SERER	SURVIVAL, EVASION, RESISTANCE, ESCAPE AND RECOVERY

SHAPE	SUPREME HEADQUARTERS ALLIED POWERS EUROPE
SHIPSUM	SHIPPING SUMMARY
SI	SPECIAL INTELLIGENCE
SIDA	SINGLE INTEGRATED DATA BASE
SIDAC	SINGLE INTEGRATED DAMAGE ANALYSIS CAPABILITY
SIGINT	SIGNALS INTELLIGENCE
SIOP	SINGLE INTEGRATED OPERATIONAL PLAN
SIOP-ESI	SIOP - EXTREMELY SENSITIVE INFORMATION
SITREP	COMMANDER'S SITUATION REPORT
SJCS	SECRETARY, JOINT CHIEFS OF STAFF
SLBM	SEA-LAUNCHED BALLISTIC MISSILE
SLBM D&W	SLBM DETECTION AND WARNING
SM	SECRETARY, JCS MEMORANDUM
SOA	STATUS OF ACTIONS
SOP	SPECIAL OPERATIONS FORCE
SOP	STANDING OPERATING PROCEDURES
SPARTAN	SPECIAL ACTIVITY REPORT FOR THREAT ANALYSIS
SPECAT	SPECIAL CATEGORY
SPIREP	SPECIAL INTELLIGENCE REPORT
SRC	SPACE RESPONSE CELL
SRP	SIOP RECONNAISSANCE PLAN
SRTS	STRATEGIC ROCKET TROOPS
SSAN	SOCIAL SECURITY ACCOUNT NUMBER
SSBN	BALLISTIC MISSILE NUCLEAR SUBMARINE
SSN	SOCIAL SECURITY NUMBER
SSO	SPECIAL SECURITY OFFICE
STARTEX	START OF EXERCISE
STATE	DEPARTMENT OF STATE
STRIKOPREP	STRIKE OPERATION REPORT
STRIKSUM	STRIKE SUMMARY REPORT
SUBOPREP	SUBMARINE OPERATION REPORT
SUPINTREP	SUPPLEMENTARY INTELLIGENCE REPORT
TACAMO	TAKE CHARGE AND MOVE OUT
TACAN	TACTICAL CONTROL AND NAVIGATION SYSTEM
TDD	TARGET DGZ DESIGNATOR
TDI	TARGET DATA INVENTORY
TDY	TEMPORARY DUTY
TFW	TACTICAL FIGHTER WING
TOA	TRANSPORTATION OPERATING AGENCY
TPFDD	TIME-PHASED FORCE AND DEPLOYMENT DATA
TRA	TEMPORARY RESTRICTED AREA
TW/AA	TACTICAL WARNING/ATTACK ASSESSMENT
UCP	UNIFIED COMMAND PLAN
UDS	USER DISPLAY SEGMENT
UHF	ULTRA HIGH FREQUENCY
UK	UNITED KINGDOM
UNAAF	UNIFIED ACTION ARMED FORCES
UNITREP	UNIT REPORTING SYSTEM
URGORBAT	URGENT ORDER OF BATTLE REPORT

URGWORBAT	URGENT ACE WAR ORDER OF BATTLE
USA	UNITED STATES ARMY
USAF	UNITED STATES AIR FORCE
USBRO	US BASE REQUIREMENTS OVERSEAS
USCG	US COAST GUARD
USCENTCOM	US CENTRAL COMMAND
USCINCCENT	COMMANDER IN CHIEF, US CENTRAL COMMAND
USCINCEUR	US COMMANDER IN CHIEF, EUROPE
USCINCLANT	COMMANDER IN CHIEF, US ATLANTIC COMMAND
USCINCPAC	COMMANDER IN CHIEF, US PACIFIC COMMAND
USCINCRD	COMMANDER IN CHIEF, US READINESS COMMAND
USCINCSO	COMMANDER IN CHIEF, US SOUTHERN COMMAND
USCINCSpace	COMMANDER IN CHIEF, US SPACE COMMAND
USCOMSOLANT	US COMMANDER, SOUTH ATLANTIC FORCE
USDELMC	UNITED STATES DELEGATE TO MILITARY COMMITTEE, NATO
USEUCOM	US EUROPEAN COMMAND
USG	UNITED STATES GOVERNMENT
USLANTCOM	US ATLANTIC COMMAND
USMC	UNITED STATES MARINE CORPS
USN	UNITED STATES NAVY
USNMR	UNITED STATES NATIONAL MILITARY REPRESENTATIVE (NATO)
USPACOM	US PACIFIC COMMAND
USREDCOM	US READINESS COMMAND
USSOUTHCOM	US SOUTHERN COMMAND
USSPACECOM	US SPACE COMMAND
UW	UNCONVENTIONAL WARFARE
VHF	VERY HIGH FREQUENCY
VLF	VERY LOW FREQUENCY
VOCOM	VOICE COMMUNICATIONS
VOR	VHF OMNI RANGE
VP	PATROL SQUADRON
VQ	FLEET AIR RECONNAISSANCE SQUADRON
VRF	VIDEO RECORDING FACILITY
WAUX	WESTERN AUXILIARY
WCP	WING COMMAND POST
WD	WHITE DOT
WEPREP	NUCLEAR WEAPONS REPORT
WEPREQ	REQUEST FOR JCS NUCLEAR RESERVE WEAPONS
WESTLANT	WESTERN ATLANTIC
WH	WHITE HOUSE
WHCA	WHITE HOUSE COMMUNICATIONS AGENCY
WIN	WWMCCS INTERCOMPUTER NETWORK
WINTEX	WINTER EXERCISE
WWDMS	WORLDWIDE DATA MANAGEMENT SYSTEM
WWMCCS	WORLDWIDE MILITARY COMMAND AND CONTROL SYSTEM
WWMP	WORLDWIDE MESSAGE PROCESSOR
Z	ZULU TIME

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RESIDUAL CAPABILITY ASSESSMENT (U)

1. (U) General. The purpose of the volume is to provide exercise controller personnel with a set of standardized procedures to create an exercise nuclear environment for player personnel. This volume is intended for use only during exercise situations. Specific topics addressed in this volume include:

a. (U) Residual capability assessment (RECA) procedures applicable to exercise player personnel.

b. (U) The role and function of controller personnel in the RECA process.

c. (U) RECA scripting procedures for nuclear direct effects and fallout radiation.

2. (U) Background

a. (U) Reference f describes the requirements of the NCA for transattack/postattack residual capability information, describes the overall RECA system to support these requirements, and identifies the RECA responsibilities of the commanders of unified and specified commands, Services, and DOD agencies. Reference f also addresses the civil damage assessment functions required to support the RECA process. JCS Pub 6, NORADM 55-19 (Volume VIII), and Air Force OPLAN 2-84 address the exercise reporting procedures that will be implemented following a nuclear attack to support the RECA process.

b. (U) The purpose of RECA is to assess resources to determine the residual military capabilities following a nuclear attack on the United States.

c. (U) The RECA process is supported by information derived from Nuclear Detonation (NUDET), CONUS Airborne Reconnaissance for Damage Assessment (CARDAs), and Automated Data Bases reports. These reports provide a means for estimating the effects of a nuclear attack on US resources. These initial estimates are refined by information derived from the Joint Resource Assessment Data Base Report (JADREP). The JADREP card format is used to report selected information concerning the observed status of US military installations or facilities sustaining a degradation in capability due to one or more of the causes of damage identified in the JADREP reporting procedures in reference d.

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3. (U) RECA Procedures for Player Personnel

e. (U) General

(1) (U) RECA play will evolve based on the nuclear laydown scenario developed for the exercise. Controller personnel will be provided a RECA scenario based on the nuclear laydown to promote active participation on the part of RECA players at all levels.

(2) (U) The scripted inputs that make up the RECA scenario are designed to ensure consistency at all levels of RECA play.

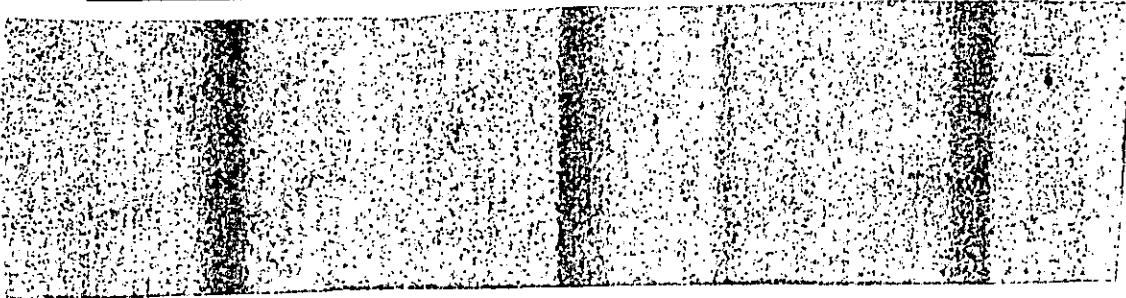
b. (U) NUDET Play

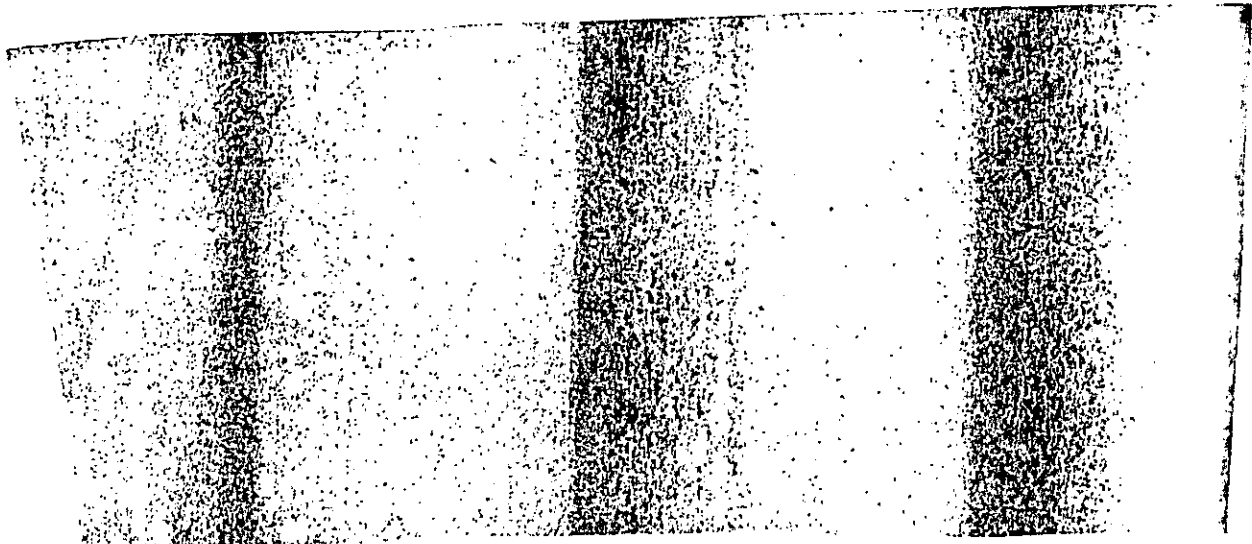
(1) (U) North American Air Defense Command (NORAD) will disseminate nuclear event information through the use of NORAD forward automated reporting system (NFARS) and the nuclear detonation information summary (NUDIS).

(2) (U) Unified and specified commands responsible for reporting to the Joint Chiefs of Staff will report in accordance with instructions governing Group 1 NUDET Reports (JCS Pub 6, Volume II). Group 1 NUDET voice reports will be confirmed by record communications and may be modified for exercise use due to the sensitivity of this information.

(3) (U) Exercise controllers will provide players with information which has been derived from NUDET Direct Effect Scripts based on the exercise nuclear laydown. RECA players will use this information to formulate assessments of resource damage and to comply with reporting requirements contained in JCS Pub 6, Volume II.

c. (U) CARDA Play





(c) (U) Remarks, if any.

(4) (U) Deviations from the CARDA play procedures described in the preceding paragraphs must be approved by the Exercise Project Officer, Joint Exercise Division, Operations Directorate, OJCS.

d. (U) Fallout Play

(1) (U) Fallout Prediction. Wind data will be provided on a time-phased basis by exercise controllers for the use of player activities involved with fallout prediction. The Exercise Project Officer, OJCS, will provide exercise controllers with the appropriate wind data.

(2) (U) Radiation Casualties and Area Denial. Exercise controllers will provide players with information to support the determination of radiation casualties and to identify areas denied by radiation. This information will include current and accumulated radiation dose rates at selected military installations or facilities and percentages to be used in determining radiation casualties and fatalities. RECA players will use casualty and area denial information to formulate assessments and comply with pertinent reporting requirements.

4. (U) RECA Controllers

a. (U) General. The exercise RECA controllers are personnel appointed by their respective commands or units as part of the

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Exercise Control Group, and they are charged with establishing the environment resulting from the nuclear attack simulated for the exercise.

b. (U) Functions

(1) (U) Determine the effects of exercise NUDETS on installations and personnel located within the controllers' areas of responsibility. This function will be supported by the scripting process discussed in paragraph 5 below.

(2) (U) Determine the degree to which resources and capabilities of installations and units have been degraded as a result of NUDET effects and translate the situation formulated into appropriate exercise inputs (see subparagraphs 5a and 5b below).

(3) (U) Determine what information (input) should be automatically inserted into the exercise and what information should be withheld pending a specific request by a higher headquarters, staff member, or commander.

c. (U) Fallout Prediction. Wind data, provided by the Exercise Project Officer, OJCS, will be used by RECA controllers to support player activities involved in the process of fallout prediction (see subparagraph 3d above). Reposited wind data will be released to appropriate player personnel in accordance with a time-phased release schedule. For example:

SAMPLE FALLOUT WIND DATA RELEASE SCHEDULE

<u>DATA TO BE USED</u> <u>(OCT 68)</u>	<u>TIME OF RELEASE</u> <u>(JUN 86)</u>	<u>PERIOD OF VALIDITY</u> <u>(JUN 86)</u>
021200Z-022400Z	070900Z	071200Z-072400Z
030001Z-031200Z	072100Z	080001Z-081200Z
031200Z-032400Z	080900Z	081201Z-082400Z
040001Z-041200Z	082100Z	090001Z-091200Z
041200Z-042400Z	090900Z	091201Z-092400Z

d. (U) RECA Scripting

(1) (U) Purpose. RECA scripting is a procedure to be employed by RECA controllers in the process of creating an

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artificial nuclear environment for exercise players. RECA scripting procedures have been developed for computing NUDET effects from the exercise NUDET list. These procedures must be adhered to in order to provide realistic and standardized RECA information to player personnel.

(2) (U) Script Data. Data derived through RECA scripting procedures must be injected into exercise play on a time-phased basis in accordance with the exercise scenario. This data is not subject to question or dispute and represents a description of the players' environment.

(3) (U) Types of Scripts. There are two types of RECA scripts that will provide a basis for RECA player injects.

(a) (U) NUDET Direct Effects Scripts.

(b) (U) NUDET Fallout Radiation Scripts.

5. (U) RECA Scripting

a. (U) NUDET Direct Effects Scripts. NUDET direct effects scripts will be computer produced for many of the military installations and facilities playing in the exercise. Military installations and facilities not covered by a computer-produced script, but involved in exercise play, will be manually scripted by appropriate RECA controllers (see subparagraph 5a(3) below).

(1) (U) Computer-Produced Scripts. Computer-produced scripts will be disseminated to appropriate RECA controller personnel, for their respective areas, prior to the start of the exercise. These scripts provide a time-sequenced list of the level of damage sustained at given military installations and facilities due to the direct effects of particular NUDETs involved in exercise play. The level of damage attributable to each NUDET is expressed in terms of a nuclear damage (ND) number. Physical damage descriptions associated with the various ND numbers are contained in the Appendix. The RECA controller will be responsible for developing time-phased player injects based on the application of damage effects in the ND descriptions to the physical plant and personnel located at the installation scripted. It is important to note that ND numbers representing damage to each installation are computed for each NUDET as if it were the only NUDET affecting that

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installation. ND numbers do not reflect the cumulative damage resulting from any prior NUDETs. Controllers should compute cumulative damage at each installation by successively applying the damage figures found in the Appendix to the already damaged installation.

(2) (U) Computer Script Format. Figure 1 illustrates the format of the computer-produced scripts. The upper half of the figure pertains to blast damage and the lower half to fallout calculations. Discussion in this section is limited to the blast damage portion. Terms within parentheses are generic and would be replaced by actual data in the computer scripts distributed to controllers. Each installation is assigned to an entity called a Complex, which is simply a collection of installations located in the same geographical area. Each Complex has a unique name and damage scripts are ordered alphabetically by Complex name. As can be seen in Figure 1, the Complex name appears centered near the top of the page. Identification numbers and detonation times are listed for each NUDET causing damage to installations in the named Complex. (Time is a six-digit field consisting of the day, followed by hours and minutes.) Each installation in the Complex is listed next, and damage (expressed as an ND number) to the installation from each NUDET appears in the same column as NUDET number and time. Installation data listed include installation name, category code, and description. In this example the Complex contains three installations. Complex and installation names are generally similar, but not always. Therefore, controllers may have to scan the list of installation names in the index provided with the damage scripts in order to determine the name of the applicable Complex and locate it in the listing.

(3) (U) Manual Scripting

(a) (U) General. The following procedure will be used to manually script the NUDET direct effects on installations and personnel.

(b) (U) Procedure. The ND description number for a given installation is computed as follows:

1. (U) Step 1--Check the NUDET list for all NUDETs that are in the general proximity of the

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EXERCISE (EXERCISE NAME)	NUCLEAR DAMAGE SCRIPT FOR MINOR COMPLEX (COMPLEX NAME) NUCLEAR BLAST DAMAGE			DATE PRODUCED	(DATE)
--------------------------	-----------------------------------------------------------------------------------	--	--	---------------	--------

NUDET NUMBER	L0003	L0012	L0015
TIME OF DETONATION	(TIME)	(TIME)	(TIME)

INSTALLATION (INSTALLATION NAME) CAT CODE (CODE) (INSTALLATION DESCRIPTION)	NUCLEAR DAMAGE NUMBER ND02	ND15	ND05
--------------------------------------------------------------------------------------	-------------------------------	------	------

INSTALLATION (INSTALLATION NAME) CAT CODE (CODE) (INSTALLATION DESCRIPTION)	NUCLEAR DAMAGE NUMBER ND02	ND16	ND06
--------------------------------------------------------------------------------------	-------------------------------	------	------

INSTALLATION (INSTALLATION NAME) CAT CODE (CODE) INSTALLATION DESCRIPTION	NUCLEAR DAMAGE NUMBER ND02	ND16	ND04
------------------------------------------------------------------------------------	-------------------------------	------	------

FALLOUT
ARRIVAL
AT TIME

ATMOSPHERIC FALLOUT
RADS/HR AT TIME

END
CONTAMINATION
DATE

		17/2300	18/1100	18/2300	19/1100	19/2300	20/1100	20/2300	21/1100	20/1100
INSTALLATION (INSTALLATION NAME)	(TIME)	22	15	9	5	2	0	0	0	
INSTALLATION NAME)	(TIME)	19	12	8	4	2	1	0	0	
INSTALLATION NAME)	(TIME)	19	12	8	4	2	1	0	0	

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Figure 1

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installation (100 miles or less). On a map, locate ground zero and determine the distance (in miles) between ground zero and the center of the installation (for each NUDET).

2. (U) Step 2--Use appropriate (air or surface) Charts in subparagraph 5a(3)(c) below. Apply mileage determined in Step 1 and yield of NUDET (from NUDET list) to determine the ND number.

3. (U) Step 3--Using the appropriate ND script in the Appendix, the RECA controller should compute the level of damage for all resources and facilities located on the installation. For those types of resources not listed in the ND script, the controller must infer an appropriate damage level from similar resources contained in the script.

4. (U) Example of RECA computation (for illustration only):

Factors

Installation: XYZ AFB
Location: 40°N 96°W
Weapon: Nuclear (NUDET List L0028)
Size: Medium (5 MT)
Ground Zero: 40°10'N 95°45'W
Burst: air
Time: 0001Z

Computations

Step 1

- NUDET list indicates NUDET L0028 as medium yield air burst at 0001Z.
- XYZ AFB is determined to be 15 miles distant; therefore, it is "affected."

Step 2

- Using the air burst matrix in subparagraph 5a(3)(c), the ND number is found at the intersection of the 5 MT column and the 15 NM row. In this example ND = 7.

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(Note: Controllers will have to interpolate/extrapolate for yields/distances not listed in tables.)

Step 3

- Chart for ND-07 in Appendix describes what has happened to XYZ AFB.

Step 4

- Inputs for exercise are derived from these descriptions and are inserted into exercise play.
 - By means determined to have survived.
 - According to established real-time formats and time schedules.
 - In language and completeness commensurate with the situation prevailing at the time.

(c) (U) Air and Surface Burst Charts

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1. (U) Air Burst

ND DESCRIPTION NUMBER
AS A FUNCTION OF
YIELD AND DISTANCE FROM GROUND ZERO

DISTANCE NM.	YIELD MT					
	.50	1.0	2.0	5.0	10.0	18.0
1.1	16	16	16	16	16	16
1.3	15	16	16	16	16	16
1.5	14	16	16	16	16	16
1.7	13	16	16	16	16	16
2.0	12	16	16	16	16	16
2.5	10	15	16	16	16	16
3.0	09	14	15	16	16	16
3.5	09	13	14	16	16	16
4.0	07	12	13	15	16	16
4.5	07	11	12	14	16	16
5.0	05	11	12	14	15	16
5.5	05	10	11	13	15	16
6.5	03	09	10	12	14	15
7.0	03	08	10	12	13	14
8.0	03	07	09	11	13	14
9.0	02	06	08	10	12	13
10.0	02	06	07	10	11	12
11.0	02	05	07	09	11	11
12.0	01	05	06	08	10	11
15.0	00	04	05	07	08	10
17	00	03	04	06	08	09
20	00	02	03	05	07	08
23	00	02	03	04	06	07
25	00	02	03	04	05	06
30	00	01	02	03	04	05
35	00	00	01	02	03	05
40	00	00	00	02	03	04
45	00	00	00	01	02	03
50	00	00	00	01	02	03
56	00	00	00	00	02	03
63	00	00	00	00	01	02
78	00	00	00	00	00	01
90	00	00	00	00	00	00

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2. (U) Surface Burst

ND DESCRIPTION NUMBER
AS A FUNCTION OF
YIELD AND DISTANCE FROM GROUND ZERO

DISTANCE NM.	YIELD MT					
	.50	1.0	2.0	5.0	10.0	18.0
1.1	16	16	16	16	16	16
1.3	15	16	16	16	16	16
1.4	14	16	16	16	16	16
1.7	13	15	16	16	16	16
1.9	12	14	15	16	16	16
2.2	11	13	15	16	16	16
2.4	10	12	14	16	16	16
2.8	10	11	13	15	16	16
3.2	09	10	12	14	16	16
3.6	09	09	11	13	15	16
4	07	09	10	12	14	16
4.4	07	08	10	12	13	15
5	05	08	09	11	12	14
5.5	05	07	08	10	12	13
6.0	03	06	08	10	11	13
6.5	03	05	07	09	10	12
7.3	03	04	06	09	10	11
8	03	03	05	08	09	11
9	02	03	04	07	09	10
10	02	03	03	06	08	09
11	02	02	03	05	07	09
12	01	02	03	04	06	08
13	00	02	03	04	05	08
14	00	02	02	03	05	07
16	00	01	02	03	04	06
17	00	00	02	03	03	05
19.5	00	00	01	02	03	04
22	00	00	00	02	03	03
28	00	00	00	01	02	03
30	00	00	00	00	02	02
34	00	00	00	00	01	02
43	00	00	00	00	00	01
48	00	00	00	00	00	00

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b. (U) NUDET Fallout Radiation Scripts

(1) (U) Radiation Casualties and Area Denial. Computer-produced Fallout Radiation Scripts will be provided in the same report and for the same installations/facilities scripted for direct effects. These scripts will be used to support the determination of fallout effects during the exercise. Fallout Radiation Scripts will provide a time-sequenced list of radiation (RAD) readings for all military installations or facilities scripted and affected by fallout. RECA controllers will use the information provided in NUDET Fallout Radiation Scripts to:

(a) (U) Provide players with periodic RAD readings, at appropriate installations, for the purpose of determining areas denied by radiation.

(b) (U) Compute radiation casualties for injection to player personnel at appropriate time intervals.

(2) (U) Fallout Casualty Computation. The following method will be used to compute casualties from radiation data provided in NUDET Fallout Radiation Scripts.

(a) (U) Before casualties can be calculated, a protection factor must be applied to the unshielded cumulative dose rate provided in the Fallout Radiation Script for a given installation. Exercise controllers may elect to compute individual protection factors for each function or a gross overall protection factor for all functions on an installation. For most applications, individual protection factors will not be necessary; however, if they are required, controllers should seek assistance from an NBC officer. Where gross calculation will suffice, the RECA controller may make a suitable estimate using the following guidelines:

<u>PROTECTION</u>	<u>FACTOR</u>
Open - no protection	1
Vehicles, Buildings, or Varied Protection	5
Foxholes, Armor	10
Fallout Shelters, Underground Installations	40

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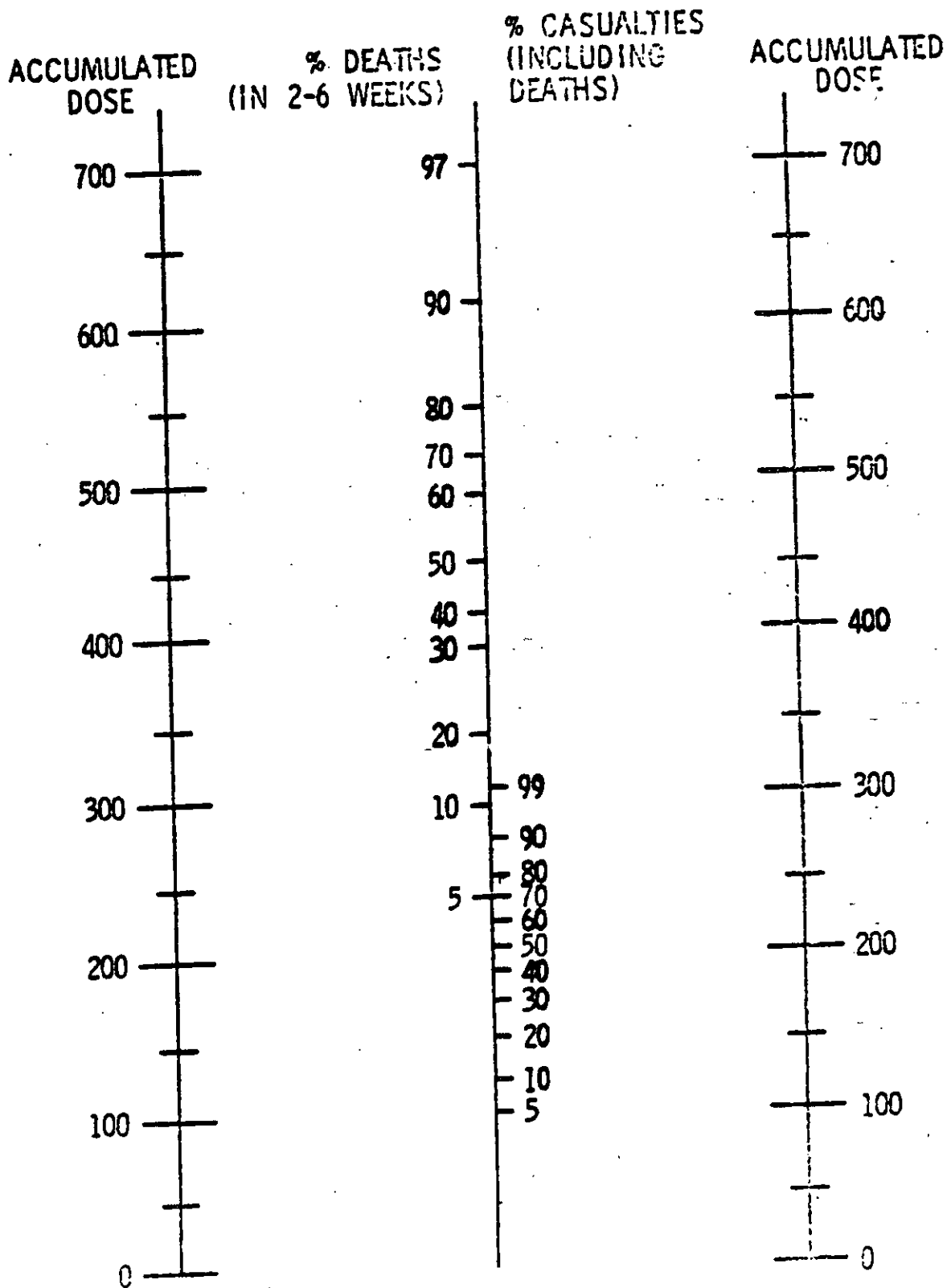
(b) (U) Compute the effective cumulative dose by dividing cumulative dose levels listed in the Fallout Radiation Scripts by the protection factor. Example: The average protection factor calculated for a unit is 10. Divide each calculated cumulative dose by 10 and the result is effective cumulative dose.

(c) (U) Calculation of casualties is carried out using the nomogram in subparagraph 5b(4).

(3) (U) NUDET Fallout Radiation Script Format. The lower half of Figure 1 illustrates the format of the Fallout Radiation Script. Cumulative RADS/HOUR at 12-hour intervals are provided for each installation in the Complex. RECA controllers should interpolate to compute doses for times that fall between the indicated intervals. Times and dose rates shown are illustrative only. They would be replaced by applicable values in the scripts distributed to controllers.

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(4) (U) EFFECTS OF ACCUMULATED DOSE
 (FOR EXERCISE PURPOSES ONLY)



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REFERENCES:

- a. JCS Pub 6, Volume II, Part 2, Chapter 1, 1 April 1980, "JRS, Unit Status and Identity Report (UNITREP)."
- b. Joint Operations Planning System, Volume IV (Crisis Action System), SM-502-85, 12 August 1985.
- c. JCS Pub 6, Volume II, Part 4, 2 November 1981, "JRS Nuclear Weapon Reports (NUREP)."
- d. JCS Pub 6, Volume II, Part 9, Chapter 1, 11 April 1983, "Joint Resource Assessment Data Base Report (JADREP)."
- e. AF CARDA OPLAN 2-84, March 1984, "CONUS Airborne Reconnaissance for Damage Assessment (CARDA)."
- f. Joint Strategic Capabilities Plan (JSCP), Annex H, current year, "Residual Capability Assessment."

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APPENDIX

A-1 to A-143