APPENDIX E

Naval Aviation Survival Training Program (NASTP) Requirements

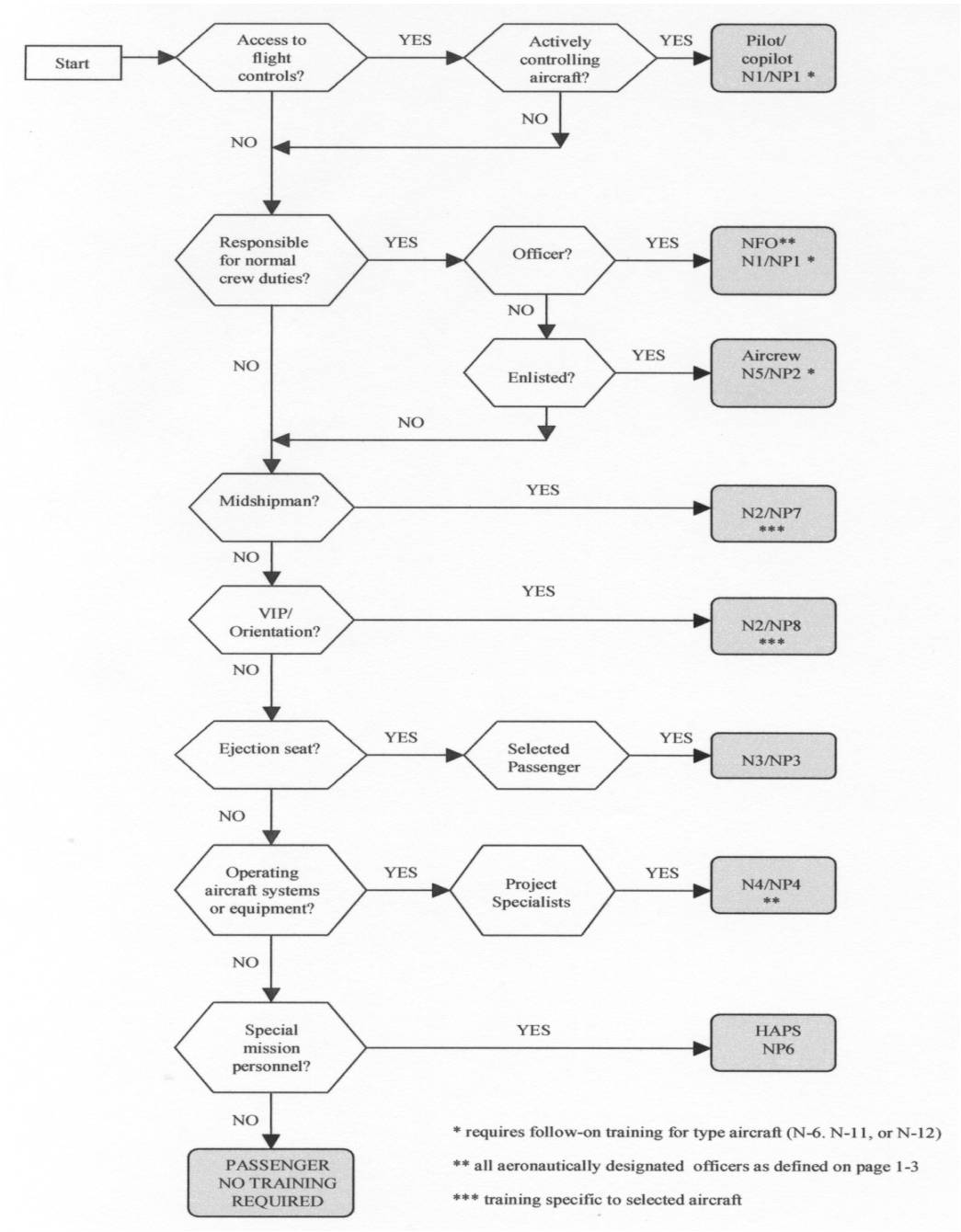

Figure E-1. Determination of NASTP Training Status for Personnel

	NASTP CURRICULA																								
COURSE	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**	**W**	**X**	**Y**
N1/NP1	X	X	X	X	X				X	X			X	X				X	X					6	X
N5/NP2	X	X	1	X	X				X	X			X	X					X						X
N2/NP7	X	X	1		X	X	X	X		X	X	X	X		X	X		X			2				
N2/NP8	X	X	1		X	X	X	X		X	X	X	X	3	3	3	3	X		3	2,3				
N3/NP3	X	X	X		X	X	X	X		X	X	X	X		X	X	X	X		X	X				X
N4/NP4	X	X	1		X	X	X	X		X	X	X	X		X	X		X							X
NP5	X						X															4			X
NP6	X	X	X	X																					X
N6	X					X	X	X			X	X			X	X	X	X		7	X				X
N7	X					X							X										X		X
N8	X									X	X	X	X					X	X	X					
N9	X					X	X						X	X											
N10	X					X	X						X										5		X
N11	X					X	X	X			X	X			X	X	X	X		7			5		X
N12	X					X	X	X			X	X	X					X		7			X		X
N13	X					X				X				X											
N14	X					X				X		X	X	X									X		X
R1/RP1	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X				X
R2/RP2	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X			5		X
R3/RP3	X	X		X	X		X	X	X	X	X	X	X	X				X		X			X		X
R4/RP4	X	X	X	X	X		X	X	X	X	X	X	X	X				X		X			5		X

Notes:

1. Not required for helicopter flight.
2. Required for personnel flying in ejection seat aircraft.
3. Device training upon request by flight approving authority.
4. Required for all aircrew flying AV-8, EA-6, F-5, F-14, F-16 and F/A-18 aircraft.
5. Required for all personnel authorized to carry the HEED/HABD.
6. Waiverable requirement for Navy personnel due to inoperative devices or inclement weather.
7. Live helicopter hoist requirement waiverable due to unavailability, inoperative devices or inclement weather.

Figure E-2. NASTP Training Requirements

NASTP CURRICULA OUTLINE

A. NASTP OVERVIEW. Classroom presentation on the content and requirements of the Naval Aviation Survival Training Program. During this period, the students will complete student screening questionnaires and be briefed on the Drop on Request and Training Time Out policies as required for high- and moderate- risk training.

B. AVIATION PHYSIOLOGY. Classroom presentation on the effects of altitude on the human body. The principles of cardiovascular and respiratory physiology are emphasized. Presentation primarily covers hypoxia, hyperventilation, trapped gas, evolved gas (decompression sickness) and acceleration phenomena.

C. LOW PRESSURE CHAMBER (LPC) BRIEF/FLIGHT. Classroom and Laboratory presentation on the various oxygen systems, proper equipment use, a review of the LPC flight profile, and reinforcing the effects of altitude on the human body with the corrective action required. The training device evolution is a simulated altitude flight in the LPC. LPC Flight profiles are per the CNO approved curricula. Reduced Oxygen Breathing Device (ROBD) training, when available, can be substituted for the LPC Flight.

D. STRESS AND HUMAN PERFORMANCE. Classroom presentation discussing the various aspects of physiological, (self-imposed) psychological, environmental, and mission stressors, and their effect on performance along with the general NATOPS requirements. Special emphasis for each type of aircraft community factors and missions such as noise and vibration, circadian rhythms, time zone shifts.

E. SENSORY PHYSIOLOGY. Classroom presentation on the effects of the flight environment on the human body's sensory systems. Specifically, the stressors that affect sensory adaptation (acceleration, darkness, lack of visual cues, visual illusions, NVD, LASERs, etc.) are covered. Disorientation, misorientation, temporal distortion, motion sickness caused by flight, and situational awareness are also discussed. The training laboratory evolutions may include a Barany Chair, the Multi Station Disorientation Demonstrator (9B6; at Pensacola only), or computer-based flight simulators to demonstrate visual and vestibular phenomena.

F. EMERGENCY EGRESS. Presentation on emergency ground egress with emphasis on crash and mishap survival. Differences between over land and over water procedures are distinguished.

G. AVIATION LIFE SUPPORT SYSTEMS (ALSS). Classroom and laboratory presentation covering ALSS which includes helmets, anti-exposure systems, general flight clothing, survival vests, flotation devices, life rafts and contents, and CBR protective systems as applicable. Specific course content determined by CNO-approved curricula.

H. SIGNALING DEVICES. Classroom and Laboratory presentation covering the operating characteristics and use of current signaling and rescue devices. Specific course content determined by CNO-approved curricula.

I. COMBAT/SURVIVAL (SELF-AID) FIRST AID. Classroom and laboratory presentation using survival equipment and improvised first aid items available to the aircrew.

J. AVIATION SURVIVAL SWIMMING SKILLS. Review of basic aviation survival swimming skills and in-water practice period for swim strokes, treading water, and drown proofing. Specific distance and drills are determined by the CNO-approved curricula.

K. FLIGHT EQUIPMENT SWIM. Wearing appropriate NATOPS required flight equipment demonstrate, ability of using three survival strokes (breaststroke, sidestroke, and backstroke). Specific distance and drills are determined by the CNO-approved curricula. GRADED ELEMENT

L. AVIATION WATER SURVIVAL SKILLS. Wearing the appropriate NATOPS required flight equipment, demonstrate ability to function, inflate and stay afloat. Times and drills are determined by the CNO-approved curricula. GRADED ELEMENT.

M. UNDERWATER PROBLEM SOLVING SKILLS. Wearing the appropriate NATOPS required flight equipment, demonstrate ability to problem solve simple egress exercises while underwater. Laboratory requirements and drills are determined by the CNO-approved curricula. GRADED ELEMENT.

N. MULTIPLACE AIRCRAFT UNDERWATER EGRESS. Classroom presentation and practical experience in procedures for underwater escape from multiplace aircraft. The training evolution includes device 9D5. Laboratory requirements and drills are determined by CNO-approved curricula. Device 9E8 is authorized for use for Refresher Students (in lieu of the 9D5) at ASTC Whidbey Island. Specific requirements and drills are determined by the CNO-approved curricula. GRADED ELEMENT.

O. PARACHUTE DESCENT TRAINING. Classroom, Laboratory presentations and practical experience in overwater and overland parachute descent training. Procedures practiced while suspended from Parahang trainers, Virtual Reality trainers, Lateral drift trainers, Swing Landing Trainers, and/or Slide trainers. Specific laboratory requirements and drills are determined by CNO-approved curricula.

P. PARACHUTE LANDING PROCEDURES. Classroom, Laboratory presentations and practical experience with parachute landing procedures and parachute avoidance/disentanglement. The training includes water and land (PLF) evolutions.
Specific laboratory requirements and drills are determined by CNO-approved curricula.

Q. PARACHUTE DRAG. Practical experience with parachute on-land and in-water release procedures. The training evolution includes device 9F2. Laboratory requirements and drills are determined by CNO-approved curricula.

R. LIFE RAFT ORGANIZATION. Classroom and Laboratory presentation and practical experience in single place and multiplace life rafts righting, boarding and organization (as appropriate for aircraft type). Specific laboratory requirements and drills are determined by CNO-approved curricula.

S. EXTENDED SEA SURVIVAL. Classroom and Laboratory presentation in extended sea survival priorities and techniques. Laboratory requirements and drills are determined by CNO-approved curricula.

T. RESCUE DEVICES AND SIMULATED HELICOPTER HOIST. Classroom and practical experience with rescue devices and a simulated helicopter hoist. The training evolution includes device 9H1. An actual helicopter hoist is conducted only at Pensacola as part of N6, N11, and N12 training. Laboratory requirements and drills are determined by CNO-approved curricula.

U. EJECTION SEAT TRAINING. Classroom presentation covering the psychological aspects of the ejection decision, aeromedical aspects of ejection, wind blast and flailing injuries, and seat-man separation. The training device evolution includes static firing of an ejection seat emphasizing proper body position and a dynamic firing on device 9E6 for some courses. Laboratory requirements and drills are determined by CNO-approved curricula.

V. CENTRIFUGE-BASED FLIGHT ENVIRONMENT TRAINING (CFET). Classroom and laboratory presentation covering the physiological affects of acceleration and the counter-measures employed in the high G environment. The training device evolution includes device 9A16 (CFET) and is accomplished at the ASTC Lemoore prior to reporting to the respective FRS. Laboratory requirements and drills are determined by CNO-approved curricula.

W. HELICOPTER AIRCREW BREATHING DEVICE (HABD)/HELICOPTER EMERGENCY EGRESS DEVICE (HEED). Classroom presentation and practical experience in procedures for underwater egress using the HABD/HEED. Laboratory requirements and drills are determined by CNO-approved curricula. GRADED ELEMENT.

X. PARASAIL. Classroom presentation and practical experience in actual parachute (parasail) descent and landing.

Y. FINAL EXAMINATION. Written test administered in all courses, unless otherwise specified in CNO-approved curricula, a passing score of 80% must be achieved. GRADED ELEMENT.

Category 1 Ejection Seat (N6, R1/RP1)	**Category 2 Non-Ejection Seat, Parachute Equipped (N11, R2/RP2)**	**Category 3 Helicopters (N12, R3/RP3)**	**Category 4 Pressurized (or Oxygen Available/Required) Non-parachute Equipped (N11, R4/RP4)**
JPATS F-16 EA-6 F/A-18 AV-8 S-3 F-5 T-2 F-14 T-45 JSF	E-2C* T-34 P-3 C-130	AH-1 H-53 UH-1 H-60 H-3 TH-57 H-46 H-2	C-9 C-37 E-6 C-12 T-39 C-20 V-22* T-44 C-2* C-40 C-26 C-35 T-1 C-21 E-4
* CNO Approved Curriculum addresses unique Aviation Water Survival Requirement Aircraft not listed above shall be categorized and trained based on which Category is most applicable.			

Figure E-3. Curriculum Definition by Aircraft Category

Course:	**N1**	**N5**	**N2**	**N2**	**N3**	**N4**			**N6**	**N7**	**N8**	**N9**	**N10**	**N11**	**N12**	**N13**	**N14**	**R1**	**R2**	**R3**	**R4**
ASTC:	**NP 1**	**NP 2**	**NP 7**	**NP 8**	**NP 3**	**NP 4**	**NP 5**	**NP 6**										**RP 1**	**RP 2**	**RP 3**	**RP 4**
MCAS CHERRY POINT, NC		Q	Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NAS JACKSONVILLE, FL		Q	Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NAS LEMOORE, CA		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MCAS MIRAMAR, CA		Q	Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NAS NORFOLK, VA		Q	Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NAS PATUXENT RIVER, MD			Q	Q		Q		Q			Q										
NAS PENSACOLA, FL	Q	Q	Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NAS WHIDBEY ISLAND, WA			Q	Q	Q	Q		Q	Q	Q	Q		Q	Q	Q			Q	Q	Q	Q

Figure E-4. Aviation Survival Training Centers and Curriculum Capabilities

COURSE	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
Level A	1	2																		
Level B			X	X	X	X	X													
Level C								X	X	X	X	X	X							
Level D														X	X	X	X	X	X	X

NOTES: 1. Required for ejection seat only. 2. Required for non-ejection seat.

Figure E-5. NASTP Adjunctive Training

NASTP ADJUNCTIVE TRAINING TOPIC GUIDE

Each course is a stand alone training module. Level A is required annual training. Levels C, B, & D are recommended annual training.

Level A - Required Annual Training

a. Aeromedical aspects of ejection and emergency ground egress

b. Emergency ground egress - impact, acceleration, survivability and egress

Level B - Recommended Annual Mission Training (as applicable for aviators and aircrew)

c. Sensory problems – spatial disorientation/misorientation, visual illusions, visual scanning, induced myopia, situational awareness, spatial strategies

d. Night vision/NVD

e. LASER/LEP

f. CBR

g. Low level flight - NOE, TERF,

Level C - Recommended Deployment Work-up Training

h. Pre-deployment syndrome - AMSO/flight surgeon roles

i. Circadian rhythms/long duration flights/fatigue

j. Sustained Operations/Combat stress

k. Survival/combat first aid

l. Land survival - geographically specific emphasizing hypo/hyperthermia in jungle, mountain, desert and arctic environments.

m. Water survival - geographically specific emphasizing hypo/hyperthermia

Level D - Recommended Annual Safety Briefs

n. Stress management, Self-imposed stress

o. Situational awareness - anomalies of attention/complacency, learning, memory improvement, temporal distortion

p. Exercise/cardiovascular fitness/strength training

q. Nutrition/weight control

r. Simulator sickness/motion sickness

s. GTIP

t. Noise and vibration