



NONRESIDENT TRAINING COURSE

July 1997



Builder Advanced

NAVEDTRA 14045

Although the words “he,” “him,” and “his” are used sparingly in this course to enhance communication, they are not intended to be gender driven or to affront or discriminate against anyone.

NAVAL EDUCATION AND TRAINING
PROFESSIONAL DEVELOPMENT AND TECHNOLOGY CENTER
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32509-5237

07 Dec 98

ERRATA #1

Specific Instructions and Errata for
Nonresident Training Course

BUILDER ADVANCED

1. No attempt has been made to issue corrections for errors in typing, punctuation, etc., that do not affect your ability to answer the question or questions.
2. To receive credit for deleted questions, show this errata to your local course administrator (ESO/scorer). The local course administrator is directed to correct the course and answer key by indicating the questions deleted.
3. Assignment Booklet

Delete the following questions and write "Deleted" across all four of the boxes for that question.

<u>Question #</u>	<u>Question #</u>
2-24	4-72
4-12	5-66
4-14	6-7
4-41	6-30

PREFACE

By enrolling in this self-study course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools, selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program.

THE COURSE: This self-study course is organized into subject matter areas, each containing learning objectives to help you determine what you should learn along with text and illustrations to help you understand the information. The subject matter reflects day-to-day requirements and experiences of personnel in the rating or skill area. It also reflects guidance provided by Enlisted Community Managers (ECMs) and other senior personnel, technical references, instructions, etc., and either the occupational or naval standards, which are listed in the *Manual of Navy Enlisted Manpower Personnel Classifications and Occupational Standards*, NAVPERS 18068.

THE QUESTIONS: The questions that appear in this course are designed to help you understand the material in the text.

VALUE: In completing this course, you will improve your military and professional knowledge. Importantly, it can also help you study for the Navy-wide advancement in rate examination. If you are studying and discover a reference in the text to another publication for further information, look it up.

*1997 Edition Prepared by
BUCS(SCW) Brice Greenfield*

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Sailor's Creed

"I am a United States Sailor.

I will support and defend the
Constitution of the United States of
America and I will obey the orders
of those appointed over me.

I represent the fighting spirit of the
Navy and those who have gone
before me to defend freedom and
democracy around the world.

I proudly serve my country's Navy
combat team with honor, courage
and commitment.

I am committed to excellence and
the fair treatment of all."

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**SUMMARY OF
BUILDER
RATE TRAINING MANUALS**

BUILDER 3&2, VOLUME 1

Builder 3&2, Volume 1, NAVEDTRA 14043, is a basic book that should be mastered by those seeking advancement to Builder Third Class and Builder Second Class. The major topics addressed in this book include construction administration and safety; drawings and specifications; woodworking tools, materials and methods of woodworking; fiber line, wire rope, and scaffolding; leveling and grading; concrete; placing concrete; masonry; and planning, estimating, and scheduling.

BUILDER 3&2, VOLUME 2

Builder 3&2, Volume 2, NAVEDTRA 14044, continues where Volume 1 ends. The topics covered include the following: floor and wall construction; roof framing; exterior and interior finishing; plastering, stuccoing, and ceramic tile; paints and preservatives; advanced base field structures; and heavy construction.

BUILDER ADVANCED

Builder Advanced, NAVEDTRA 14045, is an advanced book containing material that should be mastered by personnel in the Builder rating preparing for advancement to Builder First Class. The topics covered in this TRAMAN include the following: technical administration; planning, estimating, and scheduling; concrete construction; masonry construction; shop organization and millworking; quality control; maintenance inspections; heavy construction; and advanced base functional components field structures.

INSTRUCTIONS FOR TAKING THE COURSE

ASSIGNMENTS

The text pages that you are to study are listed at the beginning of each assignment. Study these pages carefully before attempting to answer the questions. Pay close attention to tables and illustrations and read the learning objectives. The learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

SELECTING YOUR ANSWERS

Read each question carefully, then select the BEST answer. You may refer freely to the text. The answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the course.

SUBMITTING YOUR ASSIGNMENTS

To have your assignments graded, you must be enrolled in the course with the Nonresident Training Course Administration Branch at the Naval Education and Training Professional Development and Technology Center (NETPDTC). Following enrollment, there are two ways of having your assignments graded: (1) use the Internet to submit your assignments as you complete them, or (2) send all the assignments at one time by mail to NETPDTC.

Grading on the Internet: Advantages to Internet grading are:

- you may submit your answers as soon as you complete an assignment, and
- you get your results faster; usually by the next working day (approximately 24 hours).

In addition to receiving grade results for each assignment, you will receive course completion confirmation once you have completed all the

assignments. To submit your assignment answers via the Internet, go to:

<http://courses.cnet.navy.mil>

Grading by Mail: When you submit answer sheets by mail, send all of your assignments at one time. Do NOT submit individual answer sheets for grading. Mail all of your assignments in an envelope, which you either provide yourself or obtain from your nearest Educational Services Officer (ESO). Submit answer sheets to:

COMMANDING OFFICER
NETPDTC N331
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32559-5000

Answer Sheets: All courses include one “scannable” answer sheet for each assignment. These answer sheets are preprinted with your SSN, name, assignment number, and course number. Explanations for completing the answer sheets are on the answer sheet.

Do not use answer sheet reproductions: Use only the original answer sheets that we provide—reproductions will not work with our scanning equipment and cannot be processed.

Follow the instructions for marking your answers on the answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information is necessary for your course to be properly processed and for you to receive credit for your work.

COMPLETION TIME

Courses must be completed within 12 months from the date of enrollment. This includes time required to resubmit failed assignments.

PASS/FAIL ASSIGNMENT PROCEDURES

If your overall course score is 3.2 or higher, you will pass the course and will not be required to resubmit assignments. Once your assignments have been graded you will receive course completion confirmation.

If you receive less than a 3.2 on any assignment and your overall course score is below 3.2, you will be given the opportunity to resubmit failed assignments. **You may resubmit failed assignments only once.** Internet students will receive notification when they have failed an assignment--they may then resubmit failed assignments on the web site. Internet students may view and print results for failed assignments from the web site. Students who submit by mail will receive a failing result letter and a new answer sheet for resubmission of each failed assignment.

COMPLETION CONFIRMATION

After successfully completing this course, you will receive a letter of completion.

ERRATA

Errata are used to correct minor errors or delete obsolete information in a course. Errata may also be used to provide instructions to the student. If a course has an errata, it will be included as the first page(s) after the front cover. Errata for all courses can be accessed and viewed/downloaded at:

<http://www.advancement.cnet.navy.mil>

STUDENT FEEDBACK QUESTIONS

We value your suggestions, questions, and criticisms on our courses. If you would like to communicate with us regarding this course, we encourage you, if possible, to use e-mail. If you write or fax, please use a copy of the Student Comment form that follows this page.

For subject matter questions:

E-mail: n314.products@cnet.navy.mil
Phone: Comm: (850) 452-1001, Ext. 1826
DSN: 922-1001, Ext. 1826
FAX: (850) 452-1370
(Do not fax answer sheets.)
Address: COMMANDING OFFICER
NETPDTC (CODE N314)
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32509-5237

For enrollment, shipping, grading, or completion letter questions

E-mail: fleetservices@cnet.navy.mil
Phone: Toll Free: 877-264-8583
Comm: (850) 452-1511/1181/1859
DSN: 922-1511/1181/1859
FAX: (850) 452-1370
(Do not fax answer sheets.)
Address: COMMANDING OFFICER
NETPDTC (CODE N331)
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32559-5000

NAVAL RESERVE RETIREMENT CREDIT

If you are a member of the Naval Reserve, you will receive retirement points if you are authorized to receive them under current directives governing retirement of Naval Reserve personnel. For Naval Reserve retirement, this course is evaluated at 9 points. (Refer to *Administrative Procedures for Naval Reservists on Inactive Duty*, BUPERSINST 1001.39, for more information about retirement points.)

COURSE OBJECTIVES

In completing this nonresident training course, you will demonstrate a knowledge of the subject matter by correctly answering questions on the following:

Technical Administration

Planning, Estimating, and Scheduling

Concrete Construction

Masonry Construction

Shop Organization and Millworking

Quality Control

Maintenance Inspections

Heavy Construction

Advanced Base Functional Components
Field Structures

Student Comments

Course Title: Builder Advanced

NAVEDTRA: 14045 **Date:** _____

We need some information about you:

Rate/Rank and Name: _____ SSN: _____ Command/Unit _____

Street Address: _____ City: _____ State/FPO: _____ Zip _____

Your comments, suggestions, etc.:

Privacy Act Statement: Under authority of Title 5, USC 301, information regarding your military status is requested in processing your comments and in preparing a reply. This information will not be divulged without written authorization to anyone other than those within DOD for official use in determining performance.
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NETPDTC 1550/41 (Rev 4-00)

CHAPTER 1

TECHNICAL ADMINISTRATION

LEARNING OBJECTIVE: *Identify the administrative duties and responsibilities of a Builder second and first class petty officer in relation to the Personnel Readiness Capability Program, training, construction administration, safety, and environmental protection.*

This training manual will help you meet the occupational qualifications to advance to either Builder second class or first class petty officer. The Navy and the Seabees are committed to the personnel of the Navy in terms of education, training, and advancement programs. This training manual pertains to the technical subject matter of the Builder rating; therefore, we strongly recommend that you study it methodically from time to time.

When a particular task is assigned that a group, or one individual, performs, the steps in each function must be **PLANNED**. Individuals who perform these tasks must be properly trained, well-organized, and supervised.

As either crew/squad leaders or project supervisors, you will be responsible for planning, training, organizing, and supervising any assigned task.

Additionally, you will be responsible for various administrative duties that require **PAPERWORK**. These duties will include: conducting Personnel Readiness Capability Program interviews, maintaining reports, drafting rough evaluations, planning work assignments, and identifying safety and environmental hazards.

Your assigned command determines the way you are to carry out your administrative responsibilities; however, your skills in planning, organizing, applying effective supervisory techniques, and your ability to get along well with people will determine whether you obtain your goals in the Seabee community, regardless of your assignment.

Before you assign work, be sure to give careful consideration to the qualifications of your personnel. Ask yourself this question? Are they experienced, and do they have the proper training required?

Supervision will not be covered in this TRAMAN; therefore, you will need to refer to *Military*

Requirements for Petty Officer Second and First Class, NAVEDTRA 12045/12046, and the *NCF/Seabee 1 & C*, NAVEDTRA 12543, for guidance.

THE PERSONNEL READINESS CAPABILITY PROGRAM

The *Personnel Readiness Capability Program* (PRCP) provides timely personnel information to all levels of management within the Naval Construction Force (NCF). This program increases the ability of management to control, to plan, and to make decisions in determining operational readiness. The program identifies the occupational skills required for determining qualified personnel in formal training and individual skills required by the Naval Facilities Engineering Command (NAVFAC P-458).

NAVFAC P-458 has been consolidated into one volume to facilitate the use by staff personnel and PRCP interviewers. The PRCP contains standard skill definitions applicable to the NCF. Standards and Guides consists of seven separate manuals (one for each Seabee rating) and is the interviewer's primary tool in collecting and updating skill data.

SKILL

A "skill" is a specific art or trade. For PRCP purposes, a skill is either "manipulative" or "knowledge."

SKILL INVENTORY

An accurate and current skill inventory is the backbone of the PRCP. Without this inventory, the reliability of any planning based on information stored in the PRCP data bank is questionable. The PRCP is the primary management tool used to determine the readiness of the unit and the skill deficiencies of its members. It is used in conjunction with the requirements established by the Commander, Second

Naval Construction Brigade (COMSECONDCNB), and Commander, Third Naval Construction Brigade (COMTHIRDCNB), which are issued in their joint instruction COMSECONDCNB/COMTHIRDCNBINST 1500.1 (series). This instruction identifies and defines the skills required for peacetime and contingency operations to be met and it specifies the required number of personnel to be trained in each skill. These skills are classified into the following five major categories:

1. Individual general skills (PRCP 040 - 090). These are essentially knowledge skills related to two or more ratings, such as material liaison office operation (PRCP 040), instructing (PRCP 080), and safety (PRCP 090).

2. Individual rating skills (PRCP 100 - 760). These are primarily manipulative skills associated with one of the seven Occupational Field 13 (Construction) ratings. Some examples are light-frame construction (PRCP 150), for the Builder; cable splicing (PRCP 237), for the Construction Electrician; and shore-based boiler operation (PRCP 720), for the Utilitiesman.

3. Individual special skills (PRCP 800 - 830). These are technical skills performed by personnel in several ratings, including people that are not in Occupational Field 13; for example, forklift operation (PRCP 800), ham radio operation (PRCP 840), and typing (PRCP 803).

4. Military skills (PRCP 901 - 981). These skills are further classified into the following three subcategories: mobilization, disaster recovery, and Seabee combat readiness. Examples are aircraft embarkation (PRCP 902), M-16 rifle use and familiarization (PRCP 953), disaster recovery, and heavy rescue (PRCP 979).

5. Crew experience skills (PRCP 1000A - 1010A). These skills are obtained through on-the-job training (OJT). Most projects are related to advanced base construction, such as observation tower (PRCP 1002A), fire fighting (PRCP 1009A), and bunker construction (PRCP 1008A).

A skill inventory has three principal steps. First, each skill is closely defined and divided into task elements. Second, a standard procedure for obtaining the information is developed. This procedure helps make sure the information is collected and that it meets with certain standards of acceptability. The third step is the actual collection of the skill data and it

includes the procedures for submitting the data to the data bank.

PRCP STANDARDS AND GUIDES

Skill definitions alone contain insufficient information to classify people accurately, and they do not provide any classification procedures. Therefore, in recognizing this fact, the Civil Engineer Support Office (CESO) conducted special Seabee workshops. As a result, the PRCP, NAVFAC P-458, *Standards and Guides*, was developed under the guidance of CESO. The interviewing procedures as set forth in the PRCP Standards and Guides allow the trained interviewer to classify people to a predetermined skill level with an acceptable degree of uniformity. With your knowledge of the tasks required, you are authorized to classify others to an appropriate skill level by observing their performance, either in training or on the job.

Skill information obtained by interview or observation is recorded on the individual's skill update record. This form is then generated by each command and may vary in format. The skill information is then forwarded to the S-7 department. This is recorded on the Seabee Automated Mobile Management System (SAMMS) and then forwarded to the appropriate Naval Construction Regiment (NCR). The information is reviewed, the skill deficiencies are determined, and training requirements are established to maintain the readiness of the unit. Complete instructions and information for the use of the PRCP skill update record and other PRCP data processing information can be obtained from the training officer (S-7), or NAVFAC P-458, *Standards and Guides for Builder*, volume 1, and COMSECONDCNB/COMTHIRDCNBINST 1500.1 (series).

As a crew leader, you are directly responsible for using the PRCP Standards and Guides to assist a designated interviewer in maintaining an accurate skill profile on your personnel. You are also responsible for providing the initial information for the PRCP data bank. Any subsequent updating of this initial information for each person is based on their performance while on the job (which you observe), completed training, and regular interviews. Newly reported personnel, regardless of previous assignment, require an interview within 30 days from reporting onboard an NCF unit.

PRCP INTERVIEWS

Two types of PRCP interviews are in use today. The first and most important is the individual rating skill interviews. The second type is simply called other

interviews. Both require the use of the PRCP Standards and Guides.

Individual Rating Skill Interviews

When conducting an individual rating skill interview, the interviewer uses a discussion technique to classify Seabees in the skill levels of the various individual rating skills. This technique requires the interviewer to have a thorough understanding of the skills and tasks defined in the PRCP Standards and Guides. Few interviewers have the talent required to interview in all the skills of a rating. So interviewers must be mature enough to recognize their own limitations and then be willing to seek assistance from other qualified individuals as necessary. For example, an interviewer could use the masonry crew supervisor to assist in interviewing personnel for masonry skills.

Other Interviews

Other interviews are used to classify people into the areas of individual, general, and special skills, military skills, and crew experience. With few exceptions, these skills do not require an experienced interviewer. In many cases, skill levels can be assigned to individuals on the basis of their service or training record; this includes completed training evolutions, such as contingency construction crew training or block military training. To cut down on interviewing time, make use of skill level classification whenever possible. So when a person is scheduled for interviewing, it will be just a matter of verification or updating.

Interviewing Steps

When you interview put the interviewee at ease. A good way for you to do this is to explain the purpose of the interview. For example, explain to the interviewee that the interview will cover the following:

- What he or she is expected to know and to do.
- Determining what he or she can do so that the right job can be assigned.
- What his or her skill deficiencies are so that he or she can receive proper training.

Next, explain to the interviewee that he or she should discuss the knowledge of the skill honestly. There should be no embarrassment if an individual does not know every item covered in the guides. Then tell each interviewee what skills and the skill levels for which he or she is being interviewed. Last, read the skill definition aloud to see if the person is knowledgeable of the subject.

STANDARDS AND GUIDES FOR INDIVIDUAL RATING SKILLS

When assigned as an interviewer, you must obtain, read, understand, and use the PRCP Standards and Guides. The format is standard. After the skill title, you will find the contents, the skill definitions, and the tasks, which are divided into task elements.

Skill Title and Contents

The title identifies the skill; for example, figure 1-1 identifies the individual Builder skill No.#132, Mixing, Placing, and Finishing Concrete.

The number 132 is a numerical code for this skill. You should use the contents to make sure there are no missing pages. You must interview each candidate to see if he or she is qualified for that skill level.

Skill Definitions

The skill definitions in the PRCP Standards and Guides introduces the skill material to the interviewees. Figure 1-1 also shows an individual rating skill definition. The definition shown is for the Builder and is a statement of tasks to be performed at each skill level.

There will be either 1, 2, or 3 skill levels, depending upon the complexity and the number of tasks. Each level within a given skill is more difficult than the previous one and requires a broader knowledge in both application and theory. For example, a person having skill level 1 in Planning, Estimating, and Scheduling would perform a skill, such as determine crew size and manpower requirements. Whereas, for skill levels 2 and 3, a person would demonstrate a skill, such as developing Level IIs, a knowledge factor of a specific area and hold the Navy Enlisted Classification (NEC 5915) for skill level 2.

Task and Task Elements

A task is a specific portion of the overall skill level. For an example, refer to figure 1-2. Some tasks cover broad areas. Others may be quite specific and brief. Each task is further divided into several smaller jobs called task elements.

A task element is a basic part of each task. When interviewing, you should use the Action Statements and their related Task Elements to determine the interviewee's qualifications. Action statements tell you the type of information you should obtain from the person being interviewed. Each action statement is