

CHAPTER 1 INTRODUCTION

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1-1 PURPOSE OF PUBLICATION

This Facility Criteria publication, FC 2-000-05N was formerly designated as FC 2-000-05N under the same title. It provides the space planning factors, criteria and techniques for use in developing Basic Facility Requirement (BFR) calculations and assessments. Establishing the BFR provides the space demand or support requirement for shore-based facilities, by category code, necessary to perform the peacetime missions of Navy shore activities. A BFR justification is the calculation of an installation, command, or region's facilities allowances based upon established planning criteria. The BFR calculation can be modified (with justification) to accommodate site-specific or unit-specific loading requirements, such as mission, personnel, functions and equipment.

BFRs encompass entire functional categories of use, such as administrative offices, general warehouses or public works shops, for both host and tenant commands. For each of the activity's functional categories, if the sum of all current assets assigned to that category code is greater than the calculated requirement in the BFR, there is a surplus of space; if it is less, there is a deficiency. BFRs should be updated periodically and must be updated when there is a change in loading or a change in mission.

The purpose of this publication is to present the specific criteria and algorithms used to prepare BFRs for different categories of functional uses.

1-2 BFR PROCESS

Information about the process of preparing BFRs can be found in the Naval Facilities Engineering Command (NAVFAC) Business Process Management System (BPMS), which provides a systematic method for the management of various business processes and common practices that produce and/or support production of NAVFAC products and services. The BPMS provides best business processes documentation and links to applicable, appropriate and up-to-date policies, guidance, forms and information.

The BPMS process guide for production of BFRs is located on the NAVFAC portal website at the following secure address:

<https://flankspeed.sharepoint-mil.us/sites/NAVFAC-BPMS/SitePages/NAVFAC-BPMS-Overview.aspx>

1-3 BFRs FOR USMC INSTALLATIONS

When preparing BFRs for United States Marine Corps (USMC) installations or for any USMC facilities on Navy installations, the facility planner will ensure that requirements are coordinated with the program requirements of *Marine Corps Installation Command (MCICOM) GF-Facilities at Headquarters Marine Corps*.

1-4 ORGANIZATION OF FC 2-000-05N

1-4.1 CATEGORY CODE NUMBERS

Chapter 2 of this FC 2-000-05N publication is organized by Category Code Numbers (CCNs), the sequence of which generally corresponds to functional areas and activities.

A complete database of the Department of the Navy CCNs, with supporting facility type and economic factor data fields is available on the *Internet Navy Facility Assets Data Store (iNFADS)*, which is available through the secure NAVFAC SharePoint web portal.

Department of Defense (DoD) Instruction 4165.03 establishes the framework and guidance for categorizing Facility Analysis Categories (FACs) and the facility Category Code Numbers (CCNs). This framework provides for the orderly categorization of Real Property for the planning of facilities and real property inventory designations.

The system of Category Code Numbers is grouped using the following series:

- 100 Series – Operational and Training Facilities
- 200 Series – Maintenance and Production Facilities
- 300 Series – Research, Development, Acquisition, Test and Evaluation Facilities
- 400 Series – Supply Facilities
- 500 Series – Medical Facilities
- 600 Series – Administrative Facilities
- 700 Series – Housing and Community Facilities
- 800 Series – Utilities and Ground Improvements Facilities
- 900 Series – Real Estate Facilities

1-4.2 PAGE NUMBERING AND APPENDICES

The page numbering system in Chapter 2 of this publication corresponds to the first three digits of the category group.

The appendices to this document are:

Appendix A contains a current listing of Dept. of the Navy CCN's, reflecting data recently downloaded from the NAVFAC iNFADS database.
Appendix B is a list of applicable units of measurement and their abbreviations.
Appendix C is the NAVFAC P-80.1: Runway Capacity Handbook - Fixed Wing.
Appendix D is the NAVFAC P-80.2: Naval Mobile Construction Battalion Facilities.
Appendix E is the NAVFAC P-80.3: Airfield Safety Clearances.
Appendix F is the Austere Facilities Planning Criteria.

1-4.3 WEB ACCESS OF PUBLICATION AND COMMENTS

This publication and its appendices can be found at:

<https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/fc-2-000-05n>.

The criteria elements included in this publication are dynamic. As such, they are subject to continuous comment, review and update in response to changing requirements. Users of this criteria are encouraged to submit comments and recommendations regarding the content, application and/or format of the publication for consideration and review. Comments are submitted through the Criteria Change Request system on the WBDG website, at the following web address:

<https://cms.wbdg.org/ccrs/new?ufc=2-000-05N>. Include your contact information, as well as sufficient explanation for evaluation of the recommended changes to the criteria.

1-5 REQUIREMENTS IN THE REGIONAL CONTEXT

1-5.1 REGIONAL PLANNING

Navy leadership is departing from the traditional paradigm, which managed shore infrastructure at the level of individual shore activities. Under Regionalization and the Installation Claimant Consolidation programs, the Navy is shifting toward managing and planning facilities in a larger, regional context (for example, a collection of military installations in geographic proximity to one another). This comprehensive regional approach to planning broadens the field of opportunities beyond those available on an individual activity to include the geographic and functional context of the region. Regional planning looks to reduce redundant facilities within a geographic region and seeks alternative means of satisfying requirements for infrastructure, such as leasing, outsourcing and privatization.

Therefore, a planner must take into account geographically proximate military installations and civilian communities when developing BFRs. While proximate installations may have significant operational differences, they may all provide similar support services. It is feasible that Navy personnel assigned to one activity, as well as retirees in the area, may choose to use support facilities at another installation, which

would reduce or even eliminate facility requirements at the first activity. Additionally, many military installations are located near urban communities, which offer a number of resources to military and their dependents. The services provided by some support facilities in civilian communities, especially morale, welfare and recreation assets, are generally similar to on-base facilities. Planners must account for these community facilities in the BFR process by applying Geographic Adjustment Factors (GAFs), which are multipliers that represent the lower limit of on-base facility requirements. GAFs should not be used when planning at OCONUS installations because personnel usually prefer to use installation facilities, instead of facilities in the local community.

1-5.2 METHODS FOR CALCULATING REGIONAL REQUIREMENTS

There are two methods of calculating requirements for regional planning. For more individualized functions like laboratories, an applicable method is to calculate an individual requirement based on each tenant's loading and then sum the results to produce a final requirement. For common-use functions like golf courses and distribution centers, the preferred method is to add up all the loading to produce a single aggregate requirement and then subdivide the result, as appropriate. While a planner must exercise professional judgment in determining the best method to employ, this document offers specific guidance for the regional planning of supply/logistics facilities and community facilities.

1-5.2.1 REGIONAL PLANNING OF SUPPLY/LOGISTICS FACILITIES. Specific regional considerations are included in the introduction to the CCN 430 and 440 Series. With the goal of seeking economies of scale for regional planning, the planner should view the sum of all available assets in their aggregate, wherever practical. It is in this aggregate view of assets that a requirements summary in cubic feet should be translated into an optimal configuration in square feet. In other words, the planning exercise should answer the question: "What is the most efficient accommodation of the cubic foot requirement within the existing or planned square footage (facilities and systems)?"

1-5.2.2 REGIONAL PLANNING OF COMMUNITY FACILITIES. Various transportation studies were consulted to determine the distance that the average person is willing to walk and to drive to community facilities. These distances are considered the "service radius" of the facility. If a military installation is located in proximity to another military installation or civilian community that offers one of the following community facilities, use of this off-base facility should be taken into consideration. If the off-base facility is within the service radius (as detailed in the following table) from the installation, a similar facility may not be required on the installation. Refer to the introduction for the CCN 740 Series for detailed information about project validation assessments and other topics.

Table 1-1. Regional Travel Times (CCN 740, 750 and 760 Series)

Category(s)	Category Description(s)	Service Radius Walking Time (minutes)	Service Radius Driving Time (minutes)
740-01, -04, -23, -86	Exchange Retail Store; Food Service; Commissary; Warehouse	15	15
740-02, -08, -11	Location Exchange; Food Store/Grocery, ServMart	5	5
740-09, -71	Exchange Service Outlets; Package Stores	15	15
740-03, -13, -16, -90	Exchange Central Admin; Laundry Plants; Maintenance Shops; Distribution Centers	0	45
740-23	Commissary	15	15
740-12, 740-25	Red Cross/Navy Relief, Family Services Center	0	30
740-18, 740-19	Bank, Credit Union	10	10
740-26	Installation Restaurant	15	15
740-27	Armed Forces Radio/TV Station	N/A	N/A
740-30	Exchange Gas/Service & Auto Repair Station	0	15
740-32	Exchange Car Wash	0	10
740-34	Thrift Shop	15	15
740-37	Special Services Issue & Office	15	15
740-38	Auto Skills Center	0	15
740-40, 740-46	Bowling Center, Skating Rink	15	30
740-44, 740-45	Fitness Facilities	15	15
740-47	Information, Ticket & Tours	15	15
740-53	Indoor Swimming Pool	15	15
740-54, 740-55, 740-74	Recreation Centers; Youth Centers, Child Development	15	15
740-56, 750-50	Theater; Outdoor Theater	15	15
740-60, -64, -67, -68, -70	Mess / Clubs / Catering Facilities (all ranks)	10	15
740-76	Library	15	15
740-75, 740-79	Navy Flying Club; Riding Stable	0	30
740-77, 740-90	Community Storage, MWR Equipment Maintenance	0	20
740-88	Educational Services Office	15	30
750-10, -20, -22, -30	Outdoor Playing Courts; Fields; Jogging Track; Pool	15	30
740-80, 750-40, 750-56	Golf Clubhouse; Golf Course; Driving Range	0	60
750-21, 750-23	Batting Cage, Go-Cart Track	0	30
740-52, 750-52	Skeet/Trap Building, Skeet/Trap Range	0	30
750-37, 750-38	Outdoor Adventure Area; Equipment Rental Storage	15	20
740-78, 750-54, 750-57	Recreation Pavilion, Band Stand & Recreation Grounds	10	20
740-81, 740-92, 750-58, 750-59	Rental Lodging & Campground (Support, Tents & RVs)	0	60

Category(s)	Category Description(s)	Service Radius Walking Time (minutes)	Service Radius Driving Time (minutes)
740-87, 750-60, 750-61	Marina Support Building, Marina and Recreational Piers	0	60

1-6 COMPONENTS OF BFR DEVELOPMENT

BFRs are developed using peacetime mission and loading; they should not include contingencies. BFRs are the product of a regional analysis of the following factors:

1. Projected missions, functions, and tasks,
2. Base loading, and
3. Criteria.

1-6.1 PROJECTED MISSION, FUNCTIONS, AND TASKS

Each activity has its own statement of missions, functions, and tasks. Missions are concise, unclassified general statements of what the activity is to accomplish. Functions are workload derived from the main elements of an activity’s mission. Tasks are workload accomplished in connection with existing program policy directives or written tasking assignments. The BFR process assesses an activity’s missions, functions and tasks in the context of base loading and requirements, and translates the output into infrastructure. A first step in translating the activity’s missions into facility requirements is to assign the mission(s) to major functional areas and note the associated facility types, according to the CCN series.

1-6.2 BASE LOADING

1-6.2.1 DETERMINATION OF INCLUSION AREA. Base loading is the number of aircraft, ships, personnel and equipment assigned to perform the tasks and services. To determine loading for use in a regional BFR, the planner should increase the inclusion area to encompass the larger region while ensuring that personnel or equipment are not double-counted. Typically, there is no predefined geographic inclusion area; an inclusion area may fluctuate depending on the facility being planned or the type of study that the BFRs are supporting. The planner should use sound professional judgment to determine the inclusion area and must have the area validated by the stakeholders prior to completing the BFRs.

1-6.2.2 USE OF LOADING PROJECTIONS. BFRs should be prepared using five-year loading projections. Planning beyond the five-year timeframe should be based on approved CNO initiatives. Unapproved, out-year Program Objective Memorandum requests may only be used if no other data is available.

1-6.2.3 EFFECT OF FLEET RESPONSE PLAN. The Fleet Response Plan (FRP), which is a new deployment concept, has had important ramifications for ship, aircraft, and personnel loading numbers used in BFRs. FRP combines training and maintenance schedules, manning requirements, equipment and funding to make six carrier strike groups available to the national leadership within 30 days, with two more available within 90 days in times of war or significant crises. During war and times of crisis, deployments will be made to meet the mission and might be less than or more than six months long. Previously, certain loading categories only counted 67% of the deployable populations at a certain installation, under the assumption that 33% of the population would be deployed. Under FRP, BFRs assume 100% of the aircraft loading requirement and 73% of the ship requirement, plus associated personnel.

1-6.2.4 POTENTIAL LOADING DATA SOURCES. Commander Navy Installations Command (CNIC) and NAVFAC headquarters are developing a loading database that will be the definitive site for use in Navy BFRs. Until this site is developed, the potential sources listed below are meant to be starting points for data, acknowledging that websites and specific departments may become obsolete. It is the planner's responsibility to 1) gather data from accurate sources and 2) have the loading numbers validated by the stakeholders or client before completing the BFRs.

Table 1-2. Potential Aircraft Loading Sources

Categories	Potential Sources
<p>Permanent duty stations of aviation units include the number and type of squadrons including the wing, and the number and type of aircraft assigned to the wing and squadrons.</p>	<p>Information about wings and squadrons assigned to each region is available from the TYCOM.</p>
<p>Transient Aircraft are supported at activities for military transport aircraft or transiting aircraft that are enroute to deployment areas. Installations assigned transient aircraft must include facility requirements for average daily on-board aircraft. Transient aircraft also include visiting aircraft at installations located within close proximity of training ranges (e.g., firing or Fleet Carrier Landing Practice airfields). Peak loadings for exercises or contingencies are not to be used for</p>	<p>Projections of aircraft for each wing/squadron are available in the Primary Assigned Aircraft allowance, which can be provided by the Operations Officers of the wing/squadron.</p> <p>Aircraft procurement data is available from Commander, Naval Air Forces (CNAF).</p> <p>Transient aircraft data must be accounted from the average daily loading of Air</p>

Categories	Potential Sources
determination of allowances. Transient aircraft maintenance is generally supported at home ports and home bases.	Operations records.

Table 1-3. Potential Ship Loading Sources

Categories	Potential Sources
<p>Current and projected homeport assignment of ships. This data requires the collection of ship type and numbers of ships within each ship type.</p>	<p>Naval Vessel Register http://www.nvr.navy.mil</p>
<p>Operational Tempo considers the number of ships in port versus the number of ships at sea (i.e., deployed/rotational units are to be counted at the receiving installation). Under the Fleet Response Plan (FRP), assume that 73% of surface and subsurface ships including personnel are at homeport at any given time. Assume that 27% of surface and subsurface ships including personnel are deployed.</p> <p>Pier-side maintenance scheduling encompasses dredging, fender repairs, mooring repairs, etc. This limits the amount of berthing space for ships.</p> <p>Transient/Other Ships include Military Sealift Command, MARAD, visiting ships, foreign ships, ship commissioning and decommissioning. Average on-board numerical data is required for determining requirements. Peak loadings for exercises or contingencies not to be used.</p>	<p>Fleet Commanders (e.g., LANTFLT, PACFLT) and TYCOMS (e.g., COMNAVSURFLANT, COMNAVSURPAC)</p> <p>Port Operations Officers at individual installations</p>

Table 1-4. Potential Personnel Loading Sources

The majority of space allowances are based on military strength.

Categories	Potential Sources
<p>Military Strength – all officer (O1-O10) and enlisted personnel (E1-E9) assigned to an activity for permanent duty. Military strength may also include “Permanent Change of Station” (PCS) students, who are assigned to a school on orders lasting more than 20 weeks and may be counted as permanent party personnel, especially for bachelor housing requirements. Reservists are considered the military strength population at Reserve Training Centers.</p>	<p>CNI Housing Intranet (MyHSG) site: https://www.emh.housing.navy.mil Maintained by Navy Housing Technical Support at 800-877-8503 or 703-273-5480 or eMH@aemcorp.com.</p> <p>Downloads from the Total Force Manpower Management System (TFMMS), managed by the Navy Personnel Command and found at http://www.npc.navy.mil.</p>
<p>Some CCN series, especially the 500 and 700 series modify the Military Strength calculation and allow the following Transients categories to be included. This will be specifically called out in the CCN series:</p>	
<p>Transients – average daily number of personnel on Temporary Duty (TDY), awaiting transfer for further assignment, or pending separation who are not permanently assigned to the activity. Transients may only be counted when sizing facilities that transients specifically use. Discharged medical personnel awaiting PCS assignment are not included.</p> <p>Transients also include groups (1) through (4) listed below:</p>	
<p>(1) Temporary Duty (TDY) Students – personnel assigned to a school on orders for less than twenty weeks. However, only the average number on board may be used and only for sizing facilities that students specifically use.</p>	<p>Chief of Naval Education and Training. BUMED (for TDY medical students).</p>

Categories	Potential Sources
<p>(2) Reservists – personnel assigned to reserve units. Reservists may be counted with the active duty military populations at active duty installations only for sizing facilities that are specifically affected by this group, such as the 740 and 750 series. Eighty percent of the average onboard count of Reservists on weekend or two-week duty may be counted when located at Commander, Naval Air Reserve commanded air stations; twenty percent</p>	<p>Average daily numbers are available from all Naval shore activities.</p>
<p>(3) Rotational personnel – are the average daily number of personnel deployed with squadrons or mobile units on a scheduled basis at locations other than their homeport. Deployed personnel are counted at the activity to which they are deployed.</p>	
<p>(4) Personnel assigned to ships undergoing overhaul.</p>	<p>Overhaul schedules for the next six years can be obtained from the Naval Sea Systems Command.</p>
<p>The following non-transient populations may be included in some BFR calculations, but must be specifically indicated as such in the CCN explanatory material. These potential populations include:</p>	
<p>Civilians – DoD Civilians and foreign nationals (at OCONUS installations) are counted in category codes where they are</p>	<p>Data about civilians is available from all Naval shore activities (typically the Human Resources Office).</p>
<p>Contractors – private-sector contractors employed by the DoD or employees of other services, agencies or nations working with the DoD.</p>	<p>The contract document or the Memorandum of Understanding usually details the amount and kinds of space required to accommodate these personnel.</p>

Categories	Potential Sources
<p>Retiree Population – number of retirees living within a thirty-minute drive of the installation. Retired personnel may be counted in facility requirements only if indicated in the respective allowance table and to the percentage authorized. Dependents of retired personnel are not counted.</p>	<p>If the installation cannot provide data, use most current FY Statistical Report provided by the DoD Office of the Actuary, http://actuary.defense.gov. In areas with many military installations, consult with the activities to determine the appropriate number of retirees apportioned to each installation.</p>
<p>Dependents – spouses and children of assigned military personnel. Dependents are counted in requirements if the individual CCN’s allowance table indicates that they may be counted and only to the percentage authorized. While a reduction in military strength should be made to account for military personnel on deployment, no similar reduction should be made in calculating dependent population, as dependents remain at the homeport location. In BFRs that require calculating “installation population,” dependents of military strength assigned to the installation are included.</p>	<p>through Defense Manpower Data Center (DMDC) Data Request System at https://www.dmdc.osd.mil/drs.</p> <p>* Data as of 18 February 2005 is included below in Table 1-5.</p>

Table 1-5. Dependent Data

GRADE	% Distr	% Single	% w/ Depdts	% Married	Avg. # of Children
E-1	3.80%	90.67%	9.33%	8.20%	1.2
E-2	5.79%	83.47%	16.53%	14.67%	1.2
E-3	18.93%	67.42%	32.58%	29.57%	1.4
E-4	19.19%	53.14%	46.86%	41.93%	1.5
E-5	23.82%	33.90%	66.10%	58.26%	1.8
E-6	17.66%	14.10%	85.90%	77.53%	2.1
E-7	7.63%	6.88%	93.12%	85.88%	2.3
E-8	2.19%	4.88%	95.12%	88.51%	2.2
E-9	0.99%	4.58%	95.42%	90.31%	2.1
Enlisted Total					1.9
O-1	11.70%	63.70%	36.30%	32.77%	1.9
O-2	13.05%	47.14%	52.86%	48.07%	2
O-3	32.80%	28.37%	71.63%	67.18%	2
O-4	19.47%	12.78%	87.22%	83.33%	2.2
O-5	13.06%	8.39%	91.61%	88.03%	2.3

GRADE	% Distr	% Single	% w/ Depdts	% Married	Avg. # of Children
O-6	6.47%	7.45%	92.55%	89.33%	2.2
O-7	0.20%	3.70%	96.30%	92.59%	1.8
O-8	0.13%	5.88%	94.12%	92.65%	1.5
O-9	0.06%	3.23%	96.77%	93.55%	1.5
O-10	0.02%	0.00%	100.00%	100.00%	0
O-1 to O-10 Total					2.1
W-1	1.30%	6.51%	93.49%	74.82%	2.3
W-2	1.15%	5.72%	94.28%	80.72%	2.2
W-3	0.55%	6.19%	93.81%	88.32%	1.9
W-4	0.05%	0.00%	100.00%	100.00%	1.7

Table 1-6. Potential Equipment Assigned Loading Sources

Categories	Potential Sources
Materials requiring storage – quantity (usually expressed in volume) of an item that must be stored.	Host or Tenant Command maintains a “Table of Allowances”
Ordnance requiring storage – type and amount of munitions (by volume, Net Explosive Weight Compatibility Group).	Installation ordnance load plans are available from Naval Operational Logistics Support Center (NOLSC), Mechanicsburg, PA. See CCN 421 series for details. Also check with Fleet Commanders Ordnance staff for fleet ordnance download requirements from ships.

1-6.2.5 NEED FOR DOCUMENTATION. BFRs must thoroughly document loading numbers by including citations of the sources used and explanations of the methodology employed. Loading numbers should be cited on each individual BFR justification worksheet and in a summary loading worksheet included at the beginning of a BFR package.

1-6.3 CRITERIA

1-6.3.1 CRITERIA COMPONENTS. The methodology set forth in this publication allows facilities to be appropriately sized and provides uniformity. Specifically, the criteria ensure that the existing and planned facilities are neither too small nor too large to accomplish standard mission objectives. The criteria also establish common planning standards within the Navy. Criteria information in this publication can be separated into several components, as follows:

Description of the facility – The description usually includes: the primary function of the facility; the relationship with operational components; installation types that require this facility; list and relationships of internal functional elements; and references to other publications that provide more detailed data.

Specific planning factors – This is quantitative facility data, which are usually presented in tables as formulas or in fixed gross allowances. Fixed allowances are used when a specific facility type is uniform throughout the Navy. It is important to note that fixed gross allowances do not include such facility components as loading docks and porches. If a planner expects that a facility may have these components, then the planner must adjust the BFR to accommodate them.

Approximate planning factors – For some facilities, development of specific planning factors is not feasible. However, the size of these facilities will usually fall within a limited range that has been identified by engineering surveys. Detailed justification of these requirements may be required.

1-6.3.2 GUIDELINES IN APPLYING CRITERIA. The criteria should be considered guidelines, not regimented formulas. In certain circumstances, a planner may need to modify criteria or even develop new requirements. Some CCNs do not require BFRs, such as the 800 and 900 CCN series, Family Housing, and other individual CCNs per NAVFAC P-72. Likewise, no activity is automatically entitled to a facility size allowance or the facility itself, just because the facility is included in this document. Every facility must be justified on the basis of need. Requirements should neither be based on the size of existing assets simply to justify their retention nor inflated to accommodate existing inefficient or oversized assets.

In fact, a smaller facility than the maximum gross allowance may be adequate to meet an activity's needs. Although a BFR is initially based on facilities sizing guidelines and established planning criteria, the resulting maximum allowances should be reviewed within the context of existing conditions. If the existing space is sufficient and this amount is less than the derived allowance, then the BFR should be reduced. Likewise, when a facility is sized based on regional loading, it may be smaller than the aggregate of similar facilities whose separate sizes are based on individual activity population. This difference is acceptable because the sizing reflects economies of scale. However, it is incumbent upon the planner to be consistent in the methodology used for both BFR development and actual facility sizing and construction.

1-6.3.3 NET-TO-GROSS FACTORS. In addition to the specific criteria presented under each category code, the net-to-gross factors should also be considered in developing the final space allowance. In some countries, net-to-gross factors for facilities are larger than what this document indicates. This is due to Host Nation laws and norms that require additional space, such as larger and more numerous corridors,

stairwells, mechanical rooms on exterior walls, safe rooms accessible via stairwells at each floor, separate mechanical and electrical rooms and wider egress doors. Many countries also have day lighting requirements that may justify the use of atriums or open courtyards and, therefore, restrict the building shape.

Planners must document and apply appropriate net-to-gross factors. This will ensure projects have sufficient building area and cost built into the program in order to prevent functional areas from being reduced during project design. Each project must be considered independently. Higher factors may be justified for increased circulation requirements in multi-story buildings or in buildings with several different functional spaces. Consideration also should be given to the type of facility (for example, warehouse requirements may require higher allowances, as per Table 440A & B), variation of occupant functions, local requirements and site limitations on building size and shape. Also, the number of occupants may dictate allowances; for example, uninhabited facilities like Military Working Dog kennels and armories may not necessitate higher allowances. If a planner decides to adjust the net-to-gross factors based on any of the above situations, appropriate justification must be included in the BFR documentation.

NOTE: All criteria or algorithms listed in this publication produce gross area, unless otherwise noted.

1-7 ADDITIONAL PLANNING GUIDANCE

Commander, Navy Installations has chartered an integrated product team (IPT) to review the two primary BFR types: a Planning BFR, which typically is an “80% solution” used when preparing large quantities of BFRs as part of Regional Overview, Functional, or Activity Plans; and the Project BFR, which is a 100% scope solution used to justify a MCON or Special Project. Once the results are evaluated in the Fall of 2005, the BFR IPT team will release more definitive guidance about the appropriate use of each type. Traditionally, the Navy Audit Service has used this FC 2-000-05N publication as the source document when auditing MCON projects. This publication’s criteria are also enforced to ensure that operational safety and security criteria are followed. Under the regional planning model, however, variations may be necessary and the following topics should be considered when calculating BFRs:

1-7.1 ADJUST FOR OPERATIONAL CONDITIONS

Many operational conditions, circumstances and influences can affect the use of Navy facilities. For example, the use of specific equipment or the conduct of certain

operations may require that a facility be larger or smaller than anticipated. In addition, some rooms in the facilities may be unable to be occupied while such equipment is being used or operations are underway. These conditions must be taken into account when determining the requirements for a specific facility.

It is also difficult to develop specific planning factors for unique, one-of-a-kind facilities, such as Research, Development, Testing, and Evaluation facilities. Requirements for these facilities should be based on an engineering analysis of the operation and the specific uses within the facility. Planners may also look to examples in other services, government agencies and in the private sector, keeping in mind that specialized Navy security requirements may alter these facility requirements. Regardless of the example used or method employed, the planner is responsible for providing a detailed justification of the resulting requirement.

1-7.2 UNDERSTAND HOST / TENANT RELATIONSHIPS

The planner must determine if a host activity is responsible for providing common facilities to both personnel assigned to the host and the personnel attached to tenants that are supported by the host activity. The planner must recognize these support relationships and develop base loading figures accordingly. While CNIC is in the process of establishing the formal relationships, interim host/tenant relationship information is available in the Activity Module of INFADS.

1-7.3 USE SOUND PROFESSIONAL JUDGMENT

The planner must be prepared to provide appropriate justification for any deviations from established criteria. Appropriate justification may include the number and organizational status of the personnel, support space requirements, space needed for each function within the facility, and an industrial engineering analysis of the operations. There are two techniques for preparing industrial engineering analyses: one technique is to indicate each piece of equipment and operational feature with their corresponding working and/or access space requirements in a scaled drawing; the other technique is to list the above components and their sizes in columnar format. The totals obtained from either method, plus an appropriate net-to-gross conversion factor, yield the requirement.

Complete BFR justifications should be in tabular format and should include the date of their preparation and citations of sources that were used. Do not consider “based on experience” to be sufficient justification for a BFR without further clarification or analysis. The example worksheet on the following page provides more information.

1-7.4 REFERENCE DOCUMENTS

This publication, FC 2-000-05N, should serve as the Navy Facility Planners' primary resource for determining facility space requirements. The following documents and resources are among the many sources of supplementary information that can provide supporting data and guidance to assist with establishing and justifying the necessary facility space requirements:

- 1) DOD Tri-Service Unified Facility Criteria (UFC) and DON Facility Criteria (FC) manuals, which provide technical discipline and facility specific guidance and criteria, and are located on the Whole Building Design Guide (WBDG) website: <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc>. Examples are:
 - UFC 1-200-02 *High Performance Buildings*
 - UFC 3-101-01 *Architecture*
 - FC 4-721-10N *Navy and Marine Corps Unaccompanied Housing*
- 2) DOD Unified Facilities Space Program Spreadsheets, located on the WBDG website: <https://www.wbdg.org/ffc/dod/unified-facilities-space-program-sustainability-spreadsheets>, which provide space allowance calculations (for a limited number of facility types) based on the criteria presented in this UFC and in the manuals noted in item 1 above.
- 3) NAVFAC P-970 Planning in the Noise Environment located on the NAVFAC informational documents web-portal page: <https://portal.navy.mil/portal/page/portal/084BACA3D5146AC9E0440003BA8FC471>
- 4) NAVSEA OP5, Vol.1 Ammunition and Explosive Ashore: Explosive Storage and Safety Distance
- 5) DD Form 805 Storage Space Management Report

Planners should also solicit input from functional area experts and local Activity representatives. Incorporating information from these and other sources will help ensure that there is a correlation between the program needs and the types and sizes of spaces to be provided.

1-7.5 EXAMPLE OF WORKSHEET

The following worksheet is included as an example of how to present the BFR justification calculations. While the exact formats are not mandatory, all worksheets should be dated and include the name of the person who prepared the information.

Figure 1-1. Example Basic Facilities Requirements Justification Worksheet

BASIC FACILITY REQUIREMENTS WORKSHEET			
Activity -	NAB Little Creek		UIC - N61414
CCN -	740-76	DESCRIPTION -	MWR Library
HOST UIC -	N61414		Criteria Used:
Special Area -			X P-80 Criteria
			X Engineering Evaluation
			Other
LOADING ANALYSIS / JUSTIFICATION OF REQUIREMENT			
<p>A. MISSION: The Naval Amphibious Base Little Creek Library is required to provide active duty personnel and their family members professional and educational enrichment materials to enhance the Navy quality of life and to provide leisure and recreational materials for their personal enjoyment.</p>			
<p>B. PLANNING CRITERIA: Basic Facilities Requirements (BFR) for Category Code 740-76, MWR Library, was developed in accordance with NAVFAC P-80, Facility Planning Criteria for Navy and Marine Corps Shore Installation.</p>			
<p>C. LOADING: Based on a FY02 Base Loading report: Officers (953); Enlisted (7,244); Military Strength total is 8,197.</p>			
<p>D. ANALYSIS:</p>			
1. Table 740-76A	1,670 m ² or 18,000 GSF		
2. Staff	2PN x 130 NSF = 260 NSF		
Limited Duty	4 PN x 90 NSF = <u>360 NSF</u>		
	620 NSF		
	620 NSF x 1.25 GSF/NSF = 775 GSF		
Total:	18,000 + 775 = 18,775 GSF or 1,742 m²		
REQUIREMENT: 18,775 GSF or 1,742 m²			Page 1 of 1
<p>Date Prepared: January 18, 2002 Prepared by: Jane Doe, Code HBJD, NAVFAC</p>			