1-02-CLF-0030

DCN 1491

00389

NAVSTA Roosevelt Roads
CINCLANTFLT
Naval Bases
OPERATIONAL SUPPORT

Naval Station Listing

Type	Title	Location
SUBMARINE BASE	NAVSUBASE NEW LONDON	GROTON CT
NAVAL STATION	NAVAL STATION ANNAPOLIS	ANNAPOLIS MD
AMPHIBIOUS BASE	NAVPHIBASE LITTLE CREEK	NORFOLK VA
NAVAL STATION	NAVAL STATION NORFOLK	NORFOLK VA
SUBMARINE BASE	NAVSUBASE KINGS BAY	KINGS BAY GA
NAVAL STATION	NAVAL STATION MAYPORT	MAYPORT FL
NAVAL STATION	NAVAL STATION PASCAGOULA	PASCAGOULA MS
NAVAL STATION	NAVAL STATION INGLESIDE	INGLESIDE TX
NAVAL STATION	NAVAL STATION ROOSEVELT ROADS	ROOSEVELT ROADS PR
SUBMARINE BASE	SUBMARINE BASE BANGOR	SILVERDALE WA
NAVAL STATION	NAVAL STATION EVERETT	EVERETT WA
NAVAL STATION	NAVAL STATION SAN DIEGO	SAN DIEGO CA
NAVPHIBASE	CORONADO CA	SAN DIEGO CA
NAVAL STATION	NAVAL STATION PEARL HARBOR	PEARL HARBOR HI
SUBMARINE BASE	SUBMARINE BASE SAN DIEGO	SAN DIEGO CA
SUBMARINE BASE	SUBMARINE BASE PEARL HARBOR	PEARL HARBOR HI
NAVAL STATION	NAVAL STATION GUAM	GUAM

Data for Capacity Analysis

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CAPACITY ANALYSIS

DATA CALL WORK SHEET

FOR NAVY BASE: Roosevelt Roads, PR

BASE PRIMARY UIC: 00389

Category..............................Operational Support
Sub-category..........................Naval Bases

********If any responses are classified, attach separate classified annex.**********

26 May 1994

 Revised pg

4. List the **reserve ships** by class that will be homeported at your base at the end of the indicated fiscal years. For each class provide the listed mooring requirements.

Table 4.1

Ship Class	# of Ships FY 1994	# of Ships FY 1995	# of ships FY 1997	# of Ships FY 1999	# of Ships FY 2001	Mooring LOA (ft)	Max Beam (ft)	Max Draft (ft)	Shore Pwr Amps	
LCM-8[1]	4	4	4	4	4	74	21	6	N/A	R
LCM-8[2]	4	4	4	4	4	74	21	6	N/A	R

[1]Landing Craft Detachment 192nd (LCD 192D), Puerto Rico Army Reserve National Guard (PRARNG)
[2]699th U.S. Army Reserve

5. List the **amphibious and mine warfare ships** by class that were homeported at your base at the end of the indicated fiscal years. For each class provide the listed mooring requirements.

N/A - There are no amphibious and mine warfare ships homeported at NAVSTA Roosevelt Roads.

Table 5.1

Ship Class	# of Ships FY 1994	# of Ships FY 1995	# of Ships FY 1997	# of Ships FY 1999	# of Ships FY 2001	Mooring LOA (ft)	Max Beam (ft)	Max Draft (ft)	Shore Pwr Amps
N/A									

4. List the **reserve ships** by class that will be homeported at your base at the end of the indicated fiscal years. For each class provide the listed mooring requirements.

Table 4.1

Ship Class	# of Ships FY 1994	# of Ships FY 1995	# of ships FY 1997	# of Ships FY 1999	# of Ships FY 2001	Mooring LOA (ft)	Max Beam (ft)	Max Draft (ft)	Shore Pwr Amps
LCM-8[1]	4	4	4	4	4	74	21	4	N/A
LCM-8[2]	4	4	4	4	4	74	21	4	N/A

[1]Landing Craft Detachment 192nd (LCD 192D), Puerto Rico Army Reserve National Guard (PRARNG)
[2]699th U.S. Army Reserve

5. List the **amphibious and mine warfare ships** by class that were homeported at your base at the end of the indicated fiscal years. For each class provide the listed mooring requirements.

N/A - There are no amphibious and mine warfare ships homeported at NAVSTA Roosevelt Roads.

Table 5.1

Ship Class	# of Ships FY 1994	# of Ships FY 1995	# of Ships FY 1997	# of Ships FY 1999	# of Ships FY 2001	Mooring LOA (ft)	Max Beam (ft)	Max Draft (ft)	Shore Pwr Amps
N/A									

Unit ID	Onboard FY 1994 (PN)	Onboard FY 1995 (PN)	Onboard FY 1997 (PN)	Onboard FY 1999 (PN)	Onboard FY 2001 (PN)	Indoor SF reqd	Outdoor SF reqd	Special Facilities required
CDR FLT Air Carib. 09003	25	25	25	25	25	19,060[7]	0	None
VC-8 09948	205	205	205	205	205	51,788[9]	23,825[5]	None
VP-8 09661	308	248	248	248	248	37,797[9]	0	None
2ND NCB Det 35182	3	3	3	3	3	450[10]	0	None
USCINCLANT (DEPT CFAC) 45099	2	2	2	2	2	0	0	None
437th Mil. Air Lft Wing (MAC) FB44xx	0[6]	0[6]	0[6]	0[6]	0[6]	0[6]	0[6]	None

[1] Covered boat storage.
[2] 412 acres for training.
[3] Fluctuates depending on battalion.
[4] Info based on NMCB Master Plan.
[5] Ground support equipment storage.
[6] Activity will phase out starting 1 July 1994.
[7] Based on current facilities planning documents.
[8] Based on NAVFAC P-80 criteria of 150 sf admin. space per person and current lab space utilization.
[9] Based on current utilization.
[10] Based on NAVFAC P-80 admin criteria of 150 sf per person.

10. Reserve Support Capacities

10.a. List all **reserve units** (USNR, USMCR, USAFR, ANG, USAR, ARNG) that train at this installation.

Table 10.1

Reserve Unit	Training Function / Facilities Used
390TH Transportation Company USAR	TF: Transportation Company/Cargo Transfers FU: Bldg. 2297 and Vieques Weapons Range SOD: Modification Table of Organization and Equipment (MTOE)
699TH Engineering Company USAR	TF: Engineering Company/Port Construction/Logistics over the shore operations FU: Bldg. 2297, Small arms ranges, BEQ/BOQ and MWR Facilities SOD: Modification Table of Organization and Equipment (MTOE)
432ND Transportation Company (MTC), USAR	TF: Medium Truck Company FU: Bldg. 2297 - Training at Roosevelt Roads as of 30 Jan 94 SOD: Modification Table of Organization and Equipment (MTOE)
346TH Transportation Battalion USAR	TF: Motor Transportation Headquarters FU: Bldg. 2297 - Training at Roosevelt Roads as of Jan 94 SOD: Modification Table of Organization and Equipment (MTOE)
448TH Engineer Combat Battalion USAR	TF: Conduct Annual Training FU: Bldg. 2297 SOD: Yearly training plan/program of instruction of USAR Engineering School
2979TH US Army Reserve Forces School (USARFS)	TF: Conduct Annual Training FU: BOQ/BEQ, BLDG. 2297, MWR Facilities SOD: Table of Distribution and Allowance 2RW82BAA
Naval Reserve Center	TF: Mobilization/rate training FU: Bldg. 78 SOD: Naval Reserve Unit Assignment Doc.
VA-205, USNR	TF: Electronic Warfare Service
VAQ-209, USNR	TF: Electronic Warfare Service

Reserve Unit	Training Function / Facilities Used
CARAEWRPM SEVEN EIGHT (VAW-78), USNR	TF: Fleet exercises/CN-OPS FU: Airfield, BEQ/BOQ/MWR Facilities Transportation
LCD 192D, PRARNG	TF: Lots operations, MOS Training FU: Bldg. 2300/Pier 2301/Mosquito Pier, Vieques SOD: Table of Distribution and Allowance NGW7TFAA/CCNUMNG0187
201^{ST} EVAC Hosp, PRARNG	TF: Mobile Hospital/M.A.S.H. FU: Camp Garcia, Vieques SOD: MTOE SRC08501HNG270288
919^{TH} SOW, USAFR	TF: Air Combat Support
COMRESPATWINGSLANT, USNR	TF: Patrol Squadron/Operation Support Democracy FU: Airfield, MWR Facilities
3^{RD} Longshoreman Platoon 4^{TH} LSB, USMCR	TF: Combat Service Support Operations FU: BEQ/BOQ, Theater, Hospital, EMA Vieques
Inspector Instructor Staff, USMCR	TF: MCR Training/Administrative Support FU: Bldg. 2357, MWR Facilities, Housing, NEX, Commissary SOD: Table Organization 3147A, 3511R/21R/31R

TF: Training Function
FU: Facilities Used
SOD: Source of Data

10.b. For each USNR and USMCR ship homeported or unit that trains at your facility, provide the number of **authorized billets and number of personnel actually assigned** to the unit for the past three fiscal years. Include both Selected Reserves (SELRES) and Training and Administration of Reserves (TAR) Navy / Full Time Support (FTS) Marine Corps reservists. Explain differences between authorized and actual manning.

Table 10.2

UNIT:	FY 1991				FY 1992				FY 1993			
	Auth		Actual		Auth		Actual		Auth		Actual	
	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS
Unit: 390TH USAR												
Enlisted	242	5	242	5	86	4	93	4	86	4	93	4
Officer	4	1	4	1	3	0	4	0	3	0	4	0
Unit: 699TH USAR												
Enlisted	183	6	185	6	183	6	173	5	183	6	177	6
Officer	10	2	6	0	10	2	6	0	10	2	9	1
Unit: 432ND USAR - *NO TRAINING AT ROOSRDS DURING THESE YEARS												
Enlisted	0	0	0	0	0	0	0	0	0	0	0	0
Officer	0	0	0	0	0	0	0	0	0	0	0	0
Unit: 346TH USAR - *NO TRAINING AT ROOSRDS DURING THESE YEARS												
Enlisted	0	0	0	0	0	0	0	0	0	0	0	0
Officer	0	0	0	0	0	0	0	0	0	0	0	0
Unit: 448TH USAR												
Enlisted[1]	644	25	30	0	644	25	30	0	644	25	30	0
Officer[2]	35	2	37	1	35	2	37	1	35	2	37	1
Unit: 2979TH USARFS												
Enlisted	0	0	0	0	0	0	0	0	315	0	315	0
Officer	0	0	0	0	0	0	0	0	16	0	16	0
Unit: NAVAL RESERVE CENTER												
Enlisted	256	15	451	14	405	17	560	15	384	17	492	16
Officer	15	1	30	1	31	2	38	1	31	2	33	2

UNIT:	FY 1991				FY 1992				FY 1993			
	Auth		Actual		Auth		Actual		Auth		Actual	
	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS
Unit: VA-205, USNR[3]												
Enlisted												
Officer												
Unit: VAQ-209, USNR[3]												
Enlisted												
Officer												
Unit: VAW-78, USNR												
Enlisted	103	62	79	62	103	66	76	88	103	66	79	76
Officer	28	7	28	7	28	7	28	7	28	7	28	7
Unit: LANDING CRAFT DETACHMENT, PRARNG												
Enlisted	50	5	57	5	50	5	55	5	50	5	53	5
Officer	1	1	1	1	1	1	1	1	1	1	1	1
Unit: 201ST EVAC HOSPITAL, PRARNG												
Enlisted	0	0	0	0	0	0	0	0	305	8	327	8
Officer	0	0	0	0	0	0	0	0	87	1	72	1
Unit: 919TH SOW, USAFR[4]												
Enlisted												
Officer												
Unit: COMRESPATWINGSLANT[5], USNR												
Enlisted												
Officer												

UNIT:	FY 1991				FY 1992				FY 1993			
	Auth		Actual		Auth		Actual		Auth		Actual	
	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS	SELRES	TAR/FTS
Unit: 3RD LONGSHOREMAN PLATOON 4TH LSB, USMCR												
Enlisted	129	0	120	0	129	0	125	0	129	0	115	0
Officer	3	0	1	0	3	0	1	0	3	0	3	0
Unit: INSPECTOR INSTRUCTOR STAFF, USMCR												
Enlisted	10	1	10	1	10	1	11	1	10	1	10	1
Officer	1	0	1	0	1	0	1	0	1	0	1	0

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[1]448TH USAR Unit - Only 30 of the 644 authorized trained at NAVSTA ROOS RDS
[2]448TH USAR Unit - Officers do not train at NAVSTA ROOS RDS
[3]Unit deployed unable to obtain data/certification within timeframe
[4]Unable to obtain data/certification within timeframe
[5]There are 7 Units (VP62, VP64, VP66, VP68, VP92, VP93, VP94) Rotating 6 weeks each year for 4 days, not more than one unit at a time. Each unit has 2 or 3 aircrafts with approx. 21 persons per aircraft.

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question 12 of BRAC 95 Data Call Six for

NAVSTA Roosevelt Roads

Landing Craft Ramp 2217	1-LCU	2-LCU 3 LCM-8	None	None
Pier 281	None	None	None	None
Wetslip 844	None	None	None	None
YFU & Small Craft Landing Facility 2348 Vieques	4-MIKE 8	2-LCU 4-MIKE 8	None	None
Summary Total[7]	3-FFG-7 1-SSN 1-CG-47 2-TAO, AEO, AOR 3-YTB 2-YFU 1-YD 3-WPB 1-AE 1-LCM-6 6-Boats 2-LCU 4-MIKE 8	4-FFG-7 1-CG-47 2-TAO, AEO, AOR 1-AFF, ASR, LST 3-YTB 2-YFU 1-YD 5-WPB 2-AE 1-LCM-6 5-LCU 5-LCM-8 4-MIKE-8	33 Ships with inert ammo 1-LCU with inert or live ammo	2 FFG 2 SSN 1-CG/DDG

1 Typical pier loading by ship class with current facility ship loading.
2 List the maximum number of ships that can be moored to conduct ordnance handling evolutions at each pier/berth without berth shifts. Consider safety, ESQD and access limitations.
3 List the maximum number of ships that can be serviced in maintenance availabilities at each pier without berth shifts because of crane, laydown, or access limitations.
4 Max Draft 18ft
5 Currently no IMA. However, the pier capacity is provided if IMA were constructed.
6 Located on Vieques Island approximately 6.8 NM from the harbor.
7 "Summary Total" represents the total class and number of ships that can be handled under typical steady state conditions, under maximum capacity, under ordnance loading conditions, and under maintenance conditions.
8 Surface ships typically berthed without electrical power. Submarines typically berthed with shore power.
9 Ship berthing limited by 1600 amps on each side of pier 2.
10 Ship berthing capacity limited to 7000 amps total available power.

16.a. For **ship classes** currently homeported at your base and **serviced by an associated Intermediate Maintenance Activity**, list the following historical data:

N/A - There are no ships homeported at Roosevelt Roads, PR and no associated IMA facility for ships.

IMA/UIC:_________N/A_________/__N/A__

Table 16.1

Ship Class	Avg. man-hrs expended per ship per year			Avg # of days in dock/yr for class operating cycle	Fleet reqd wks/year in availability per ship		
	FY1991	FY1992	FY1993		FY1991	FY1992	FY1993
N/A							

16.b. List the **projected work load** at the same IMA for each class of ship.

N/A - See answer 16.a.

Table 16.2

Ship class	Projected man hours (x1000) per ship per fiscal year													
	FY1995		FY1996		FY1997		FY1998		Fy1999		FY2000		FY2001	
	# Ships	Man-hrs	# Ships	Man-hrs	# Ships	Man-hrs	# Ships	Man-hrs	# Ships	Man-hrs	# Ships	Man-hrs	# ships	Man-hr
N/A														

16.c. If some **IMA level work is contracted to civilian (non-DON) activities, provide** the navy contract manager and estimate the equivalent man-hours of service provided by those contractors in the listed fiscal years. List projected contractor IMA workload for the fiscal years 1995 through 2001.

N/A - Refer to answer 16.a.

MAINTENANCE SUPPORT CAPACITY

17. For any **Shore Based Intermediate Maintenance Facility**, list the following: The Shore Base Intermediate Maintenance Facilities listed below are Aircraft Intermediate Maintenance Activities and AFWTF maintenance facilities. NAVSTA Roosevelt Roads has no SIMA.

17.a. List the **size** and the condition of the **intermediate maintenance facility** located at the installation. CCN refers to the five digit category code number from NAVFAC P-80.

Table 17.1

Facility Name/ Function	CCN	Adequate (sq ft)	Substandard (sq ft)	Inadequate (sq ft)
MAINT HANGAR BLDG 860	211-05	0	30,382	0
PWR CHK STRUCTURE BLDG 1734	211-89	300	0	0
MAINT A/C BLDG 2004	211-96	6,000	0	0
PARACHUTE BLDG 777	211-75	2,265	0	0
GUIDED MISSILE BLDG 378	212-10	10,980	0	0
PRODUCTION EQUIP SHOP BLDG 378	218-68	7,756	0	0
GUIDED MISSILE BLDG 380	212-10	1,514	0	0
GUIDED MISSILE BLDG 2057	212-10	0	0	0
WELDING SHOP BLDG 870	213-45	0	0	2,500[1]
BOAT SHOP BLDG 1739	213-58	3,879	0	0
BOAT SHOP BLDG 2007	213-58	1,000	0	0
TORPEDO SHOP BLDG 1730	216-40	4,480	0	0
UWT WEAPONS SHOP BLDG 394	216-55	0	0	16,160[2]
ELEC COMMUNICATION MAINT SHOP BLDG 377	217-10	6,383	0	0
ELEC COMMUNICATION MAINT SHOP BLDG 1981	217-10	0	4,000	0
PROD EQ SHOP BLDG 825	218-68	3,200	0	0
PROD EQ SHOP BLDG 1819	218-68	0	960	0
PROD EQ SHOP BLDG 1728	218-68	4,000	0	0
PROD EQ SHOP BLDG 1967	218-68	4,000	0	0

55157 35342 18660

Facility Name/ Function	CCN	Adequate (sq ft)	Substandard (sq ft)	Inadequate (sq ft)
PRD EQ SHOP BLDG 2245	218-68	4,314	0	0
ELEC COMMUNICATION MAINT SHOP BLDG 2804	217-10	1,860	0	0
ELEC COMMUNICATION MAINT SHOP BLDG 2802	217-10	0	263	0
PW MAINT STORAGE BLDG 4104	219-77	0	714	0
DIVE LOCKER BLDG 214	219-77	0	240	0
PROD EQ SHOP BLDG 2804	218-68	1,792	0	0

In accordance with NAVFACINST 11010.44E, an inadequate facility annot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how the facility is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate if current budget program includes any of the required funds.

[1]Special Project C14-87W, MOE Welding Shop will replace and demolish Building 870. Project is scheduled for FY-95 program. Cost is $185,000. Existing Building 870 violates occupational health, safety and fire regulations. Facility is deteriorated beyond economical repairs.

[2]Special Project RCA20-91, Repair/Alter Torpedo Shop Bldg. No. 394, under construction, will change inadequate condition to adequate. Cost is $1,270,000. Estimated completion date is January 1995.

17.b. **Assuming that the shore intermediate maintenance facilities can be fully staffed with appropriately skilled workers and procurement clerks and that sufficient funding is available for all parts support, what would be the maximum ship intermediate maintenance capability of this installation. For this question, assume that all currently programmed improvements are executed and assume that all current depot work remains at the depot level.**

There is no existing intermediate maintenance facility for ships at NAVSTA Roosevelt Roads.

17.c. **What plant modifications/facility improvements are budgeted in** Presidential Budget 1995 through FY 1997 (including all BRACON) that would improve the production work capability at the ashore intermediate maintenance facility? Provide a description, cost, and additional capacity (in man-hours) that could be realized.

None. There is no existing shore IMA facility. However, real estate is available for construction in the waterfront area if the requirement arises.

17.d. Given **unconstrained funding** and manning levels, what **Industrial Plant Equipment (IPE)** would you change (add, delete, or modify) to increase the shore IMA production work capacity? Provide a description, cost estimates, and additional capacity (in man-hours per year) that could be realized.

None. There is no existing shore IMA facility.

17.e. Are there any environmental, legal or other **factors that inhibit further increase in** productive work capacity at the shore IMA (e.g. encroachments, pollutant discharge, etc.)? Provide details and possible solutions.

Not applicable. There is no existing shore IMA.

17.f. State the percent of the maintenance work day lost to **military duties** (GMT, Training, etc.) during the normal day shift.

Zero. There is no existing shore IMA.

17.g. Provide the **man-hours expended by shore based intermediate maintenance activities** for the listed years in the following categories:

Table 17.2

IMA:________	FY 1990 (K man-hr)	FY 1991 (k man-hr)	FY 1992 (k man-hr)	FY 1993 (k man-hr)	FY 1994[1] (k man-hr)
Ship Modernization (non-nuclear)	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS
Ship Modernization (nuclear)	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS
Ship Repair (non-nuclear)	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS
Ship Repair (nuclear)	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS	N/A - NO HOMEPORTED SHIPS
Aircraft[3] Maintenance	102.5	91.2	81.3	108.8	102.8
Facility/IPE[3] Maintenance	10.8	11.3	12.2	14.4	12.5

IMA:________	FY 1990 (K man-hr)	FY 1991 (k man-hr)	FY 1992 (k man-hr)	FY 1993 (k man-hr)	FY 1994[1] (k man-hr)
Other[3] Maintenance[2]	25.6	34.9	45.2	35.5	23.0

[1]Projected manhours.
[2]Describe maintenance in this category.
[3]Info provided for AIMD, Hangar 379.

SHIP SUPPORT CAPACITY

18. List the **government drydocks** (floating or graving) owned by the base or tenant activities. For each drydock indicate its maximum lift, ship classes for which NAVSEA has certified the dock, and number of days in use in FY 1991, 1992, 1993. Indicate the number of days climate prevented painting and preservation of docked ship external hull in FY 1993.

There are no government drydocks at NAVSTA Roosevelt Roads.

Table 18.1

Drydock	Maximum Capacity	Ship Classes that can be Docked[1]	Days in use			Climate Limited days		
			FY1991	FY1992	FY1993	FY1991	FY1992	FY1993
NONE								

[1]NAVSEA certification for docking.

19. Provide the same data for **commercial drydocks** in the harbor complex.

Table 19.1

Drydock	Maximum Capacity	Ship Classes that can be Docked[1]	Days in use [2]			Climate Limited days		
			FY1991	FY1992	FY1993	FY1991	FY1992	FY1993
NONE[3]								

[1]NAVSEA certification for docking.
[2]Days in use supporting DOD ships.
[3]There is no drydock in the harbor complex. Government owned/contractor operated drydock facility in San Juan is utilized occasionally on a reimbursable basis.

PERSONNEL SUPPORT

23. Training Facilities

23.a. By Category Code Number (CCN), complete the following **student throughput capacity** table for all **training facilities** (adequate, substandard and inadequate) aboard the installation including tenant activities. Include all 171-*xx*, 179-*xx* CCN's and any other applicable CCN. Following the table, describe how the Student Hours/Yr capacity is derived.

For example: in the category 171-10, a type of training facility is academic instruction classroom. If you have 10 classrooms with a capacity of 25 students per room, the design capacity would be 250. If these classrooms are available 8 hours a day for 300 days a year, the capacity in student hours per year would be 600,000.

Table 23.1

Parent UIC	CCN	Type Training Facility	Total #	Capacity (PN)[1]	Capacity (Student HRS/YR)
00389 ROOS. ROADS	171-15	RESERVE TRAINING BLDG	1	220	471,240[3]
00389 ROOS. ROADS	171-77	TRAINING MATERIAL STORAGE	2	N/A	N/A
00389 ROOS. ROADS	179-10	AIRCRAFT GUNNERY RANGE	1	N/A	N/A
00389 ROOS. ROADS	179-40	SMALL ARMS RANGE	1	N/A	N/A
00389 ROOS. ROADS	179-45	MOCK-UPS	1	N/A	N/A
00389 CAMP GARCIA	179-30	PROJECTILE RANGE	3	N/A	N/A
00389 CAMP GARCIA	179-40	SMALL ARMS RANGE	6	N/A	N/A

00389 CAMP GARCIA	179-50	TRAINING COURSE	1	N/A	N/A
00389 SP AREA, MA	179-35	WEAPONS/RANGE OP TOWER	2	N/A	N/A
00389 SP AREA, UA	171-40	DRILL HALL	1	N/A	N/A
00389 SP AREA, UA	171-77	TRAINING MATERIAL STORAGE	1	N/A	N/A
00389	171-36	RADAR SIMULATION FACILITY	1	N/A	N/A
55180	171-35	OPERATION TRAINING BLDG	1	N/A	N/A
0017A	179-72	UNDERWATER RANGE	1	N/A	N/A
0017A	179-71	EW RANGE	1	N/A	N/A

[1]Personnel Capacity is the total number of seats available for students in spaces used instruction based on the current configuration and use of the facilities.
[2]N/A indicates the facility is non-classroom type training.
[3]Calculation: (PN) x 8.5 hrs/day x 252 days/yr = 471,240

23.b. By facility Category Code Number (CCN), provide the number of hours per year of classroom time required for each course of instruction taught at formal schools on your installation. Include all applicable 171-XX and 179-xx CCN's.

CCN: 171-10 AND 171-15

Type of Training Facility	School	Type of Training	FY 1993 Requirements			FY 2001 Requirements		
			A	B	C	A	B	C
RESERVE TRAINING BUILDING	VARIOUS[2]	VARIOUS[1]						

A = Students per year
B = Number of hours each student spends in this training facility for each course
C = A X B = Number of hours of instruction

[1]Training at these facilities is various such as TQL, CHRO training, departmental training, college classes, etc. Many tenants and various reserve units use the training facility for a wide range of training. There are no records kept on these classes.

CCN: 171-35

Type of Training Facility	School	Type of Training	FY 1993 Requirements			FY 2001 Requirements		
			A	B	C	A	B	C
OPERATIONS TRAINING BUILDING	VARIOUS[1]	VARIOUS[1]						

A = Students per year
B = Number of hours each student spends in this training facility for each course
C = A X B = Number of hours of instruction

[1]Training at these facilities is various such as TQL, CHRO training, departmental training, college classes, etc. Many tenants and their departments, and various reserve units use the training facility for a wide range of training. There are no records kept on these classes.

23.b. Assuming that the training facility is **not constrained by operational funding** (personnel support, increased overhead costs, etc.), with the present equipment, physical plant, etc., what **additional capacity** (in student hours) could be gained? Provide details and assumptions for all calculations.

The **classroom** training facilities at Roosevelt Roads are used for many different functions and technically are not true training facilities with a defined schedule for different courses.

23.c. Assume all **planned MILCON** in Presidential Budget 1995 through FY 1997 and BRACON is completed as scheduled. What **additional training capacity** (in student hours per year) will be gained? Provide budgeted cost and details of all additional capacity calculations.

There is no requirement for additional training capacity.

23.d. What additional unfunded MILCON requirements could be added to increase training capacity? Provide the estimated cost and capacity gained and the basis of the values. None. There is no requirement for additional training capacity.

23.e. List and explain the **limiting factors** that further funding for personnel, equipment, facilities, etc. cannot overcome.

There are no limiting factors for construction of new training facilities. Real estate and infrastructure are available, if required.

24.a. Provide data on the **BOQs and BEQs** assigned to your current plant account. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

Table 24.1

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
BOQ, BLDG # 672 72412	6	4	3	2231	0	0	3	2231
BOQ, BLDG #725 72411	44	11	11	11996	0	0	33	35988
BOQ, BLDG # 726 72411	92	23	23	21207	0	0	69	63621
BOQ, BLDG # 727 72411	44	11	11	11901	0	0	33	35703
BOQ, BLDG # 728 72411	48	12	12	11901	0	0	36	35703
BEQ, BLDG # 731 72111	6	2	0	0	6	546	0	0
BEQ, BLDG # 731 72113	63	52	0	0	52	14196	11	3003
BEQ, BLDG # 732 72111	180	60	0	0	120	31200	60	15600
BEQ, BLDG # 733 72111	180	60	0	0	120	31807	60	15903
BEQ, BLDG # 734 72111	180	60	0	0	120	32899	60	16450
BEQ, BLDG # 1209 72111	54	32	54	9340	0	0	0	0
BOQ, BLDG # 1688 72411	230	85	85	48445	0	0	145	82641
BOQ, BLDG # 1688 72412	2	2	2	1240	0	0	0	0
BEQ, BLDG # 1707 72111	202	71	180	18339	0	0	22	2241

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
BEQ, BLDG # 1707 72112	20	10	10	2210	0	0	10	2210
BEQ, BLDG # 1708 72111	156	55	138	14167	0	0	18	1848
BEQ, BLDG # 1708 72112	16	8	8	1768	0	0	8	1768
BEQ, BLDG # 1709 72111	202	71	180	18339	0	0	22	2241
BEQ, BLDG # 1709 72112	20	10	10	2210	0	0	10	2210
BEQ, BLDG # 1791 72111	56	30	56	12422	0	0	0	0
BEQ, BLDG # 1813 72111	99	36	72	15807	0	0	27	5928
BEQ, BLDG # 1814 72111	154	56	112	29348	0	0	32	8385
BEQ, BLDG # 1815 72111	154	56	112	26405	0	0	32	7544
GUEST HOUSE, BLDG # 440 72412	4	4	4	3386	0	0	0	0
GUEST HOUSE, BLDG # 448 72412	2	2	2	2736	0	0	0	0
BEQ, BLDG # 441 72113	2	2	2	650	0	0	0	0
BEQ, BLDG # 2037, VIEQUES 72111	48	24	48	11537	0	0	0	0
BEQ, BLDG # 2037, VIEQUES 72112	1	1	1	258	0	0	0	0
BEQ, BLDG # 2037, VIEQUES 72411	1	1	1	1614	0	0	0	0

R

24.b. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

A. Facility type/code: Bldg. #672, 725, 726, 727, and 728/72411
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BOQ
D. What is the cost to upgrade the facility to substandard? $12,000,000
E. What other use could be made of the facility and at what cost? None, Not economical feasible
F. Current improvement plans and programmed funding: P-755, construct a 175 PN barracks
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP?

24.c. Provide data on the **BOQs and BEQs projected** to be assigned to your plant account **in FY 1997**. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

All planned BEQ/BOQ projects are not expected to be on our plant account by FY97 due to delayed MCON Programming. R

Table 24.1[2]

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
BOQ, BLDG # 672 72412	6	4	3	2231	0	0	3	2231
BOQ, BLDG #725 72411	44	11	11	11996	0	0	33	35988
BOQ, BLDG # 726 72411	92	23	23	21207	0	0	69	63621
BOQ, BLDG # 727 72411	44	11	11	11901	0	0	33	35703
BOQ, BLDG # 728 72411	48	12	12	11901	0	0	36	35703
BEQ, BLDG # 731 72111	6	2	0	0	6	546	0	0
BEQ, BLDG # 731 72113	63	52	0	0	52	14196	11	3003
BEQ, BLDG # 732 72111	180	60	0	0	120	31200	60	15600

24.b. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

A. Facility type/code: Bldg. #672, 725, 726, 727, and 728/72411
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BOQ
D. What is the cost to upgrade the facility to substandard? $12,000,000
E. What other use could be made of the facility and at what cost? None, Not economical feasible
F. Current improvement plans and programmed funding: P-755, construct a 175 PN barracks
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP?

24.c. Provide data on the **BOQs and BEQs projected** to be assigned to your plant account **in FY 1997**. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

All planned BEQ/BOQ projects are not expected to be on our plant account by FY97 due to delayed MCON Programming. Refer to current plant account info in Table 24.1.

Table 24.2

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
BOQ, BLDG # 672 72412	6	4	3	2231	0	0	3	2231
BOQ, BLDG #725 72411	44	11	11	11996	0	0	33	35988
BOQ, BLDG # 726 72411	92	23	23	21207	0	0	69	63621
BOQ, BLDG # 727 72411	44	11	11	11901	0	0	33	35703
BOQ, BLDG # 728 72411	48	12	12	11901	0	0	36	35703
BEQ, BLDG # 731 72111	6	2	0	0	6	546	0	0
BEQ, BLDG # 731 72113	63	52	0	0	52	14196	11	3003
BEQ, BLDG # 732 72111	180	60	0	0	120	31200	60	15600

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
BEQ, BLDG # 733 72111	180	60	0	0	120	31807	60	15903
BEQ, BLDG # 734 72111	180	60	0	0	120	32899	60	16450
BEQ, BLDG # 1209 72111	54	32	54	9340	0	0	0	0
BOQ, BLDG # 1688 72411	230	85	85	48445	0	0	145	82641
BOQ, BLDG # 1688 72412	2	2	2	1240	0	0	0	0
BEQ, BLDG # 1707 72111	202	56	112	18339	0	0	90	23191
BEQ, BLDG # 1707 72112	20	10	10	2210	0	0	10	2210
BEQ, BLDG # 1708 72111	156	53	106	14167	0	0	50	14695
BEQ, BLDG # 1708 72112	16	8	8	1768	0	0	8	1768
BEQ, BLDG # 1709 72111	202	56	112	18339	0	0	90	23191
BEQ, BLDG # 1709 72112	20	10	10	2210	0	0	10	2210
BEQ, BLDG # 1791 72111	56	30	56	12422	0	0	0	0
BEQ, BLDG # 1813 72111	99	36	72	15807	0	0	27	5928
BEQ, BLDG # 1814 72111	154	56	112	29348	0	0	32	8385
BEQ, BLDG # 1815 72111	154	56	112	26405	0	0	32	7544
GUEST HOUSE, BLDG # 440 72412	4	4	4	3386	0	0	0	0

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
GUEST HOUSE, BLDG # 448 72412	2	2	2	2736	0	0	0	0
BEQ, BLDG # 441 72113	2	2	2	650	0	0	0	0
BEQ, BLDG # 2037, VIEQUES 72111	48	24	48	11537	0	0	0	0
BEQ, BLDG # 2037, VIEQUES 72112	1	1	1	258	0	0	0	0
BEQ, BLDG # 2037, VIEQUES 72411	1 179✓	1	1	1614	0	0	0	0

24.d. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

A. Facility type/code: Bldg. #672, 725, 726, 727, and 728/72411
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BOQ
D. What is the cost to upgrade the facility to substandard? $12,000,000
E. What other use could be made of the facility and at what cost? None, not economically feasible
F. Current improvement plans and programmed funding: P-755, construct a 175 PN barracks
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? Yes, C-4

A. Facility type/code: Bldg #731, 732, 733, 734/72111, 72113
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BEQ
D. What is the cost to upgrade the facility to substandard? $17,800,000 for P-754; 17,700,000 for P-825
E. What other use could be made of the facility and at what cost? None, not economically feasible.
F. Current improvement plans and programmed funding: P-754, 112 pn barracks and P-825, 220 PN
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? Yes, C-4

A. Facility type/code: Bldg 1707/72111,72112
B. What makes it inadequate? Space/design criteria, sq ft nonexistent

C. What use is being made of the facility? BEQ
D. What is the cost to upgrade the facility to substandard? $2,100,000
E. What other use could be made of the facility and at what cost? None, not economically feasible.
F. Current improvement plans and programmed funding: FY94 RA8-90, Rehab Bldg. 1707
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? Yes, C-4

A. Facility type/code: Bldg. 1708/72111,72112
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BEQ
D. What is the cost to upgrade the facility to substandard? $2,100,000
E. What other use could be made of the facility and at what cost? None, not economically feasible.
F. Current improvement plans and programmed funding: FY95 RA9-90, Rehab Bldg. 1708
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? Yes, C-4

A. Facility type/code: Bldg 1709/72111,72112
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BEQ
D. What is the cost to upgrade the facility to substandard? $2,100,000
E. What other use could be made of the facility and at what cost? None, not economically feasible.
F. Current improvement plans and programmed funding: FY95 RA10-90, Rehab Bldg. 1709
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? Yes, C-4

A. Facility type/code: Bldg #1813, 1814, 1815/72111
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BEQ
D. What is the cost to upgrade the facility to substandard? $17,000,000 to upgrade all three Buildings
E. What other use could be made of the facility and at what cost? None, economically feasible
F. Current improvement plans and programmed funding: None.
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? No

A. Facility type/code: 1688
B. What makes it inadequate? Space/design criteria, sq ft nonexistent
C. What use is being made of the facility? BEQ
D. What is the cost to upgrade the facility to substandard? $10,000,000
E. What other use could be made of the facility and at what cost? None, not economical feasible.

F. Current improvement plans and programmed funding: None
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP? No

25.a. Provide data on the **messing facilities** assigned to your current plant account.

Table 25.1

Facility Type, CCN and Bldg. #	Total Sq. Ft.	Adequate		Substandard		Inadequate		Avg # Noon Meals Served
		Seats	Sq Ft	Seats	Sq Ft	Seats	Sq Ft	
BUILDING, 72210/1808	14,430	198	14,430	0	0	0	0	250[1], 350[2]

[1] - AVERAGE WITH NO SQUADRONS PRESENT

[2] - AVERAGE WITH SQUADRONS PRESENT

25.b. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information: N/A; all facilities are adequate

A. Facility type/code:
B. What makes it inadequate?
C. What use is being made of the facility?
D. What is the cost to upgrade the facility to substandard?
E. What other use could be made of the facility and at what cost?
F. Current improvement plans and programmed funding:
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP?

25.c. Provide data on the messing facilities projected to be assigned to your plant account in FY 1997. There are no planned or programmed projects for additional Messing facilities. Refer to current plant account info in Table 25.1.

Table 25.2

Facility Type, CCN and Bldg. #	Total Sq. Ft.	Adequate		Substandard		Inadequate		Avg # Noon Meals Served
		Seats	Sq Ft	Seats	Sq Ft	Seats	Sq Ft	
See Table 25.1								

25.d. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information: N/A; all facilities are adequate

A. Facility type/code:
B. What makes it inadequate?
C. What use is being made of the facility?
D. What is the cost to upgrade the facility to substandard?
E. What other use could be made of the facility and at what cost?
F. Current improvement plans and programmed funding:
G. Has this facility condition resulted in C3 or C4 designation on your BASEREP?

26. For military **married family housing assigned to your plant account** provide the following information:

Table 26.1

Type of Quarters	Number of Bedrooms	Total number of units	Number Adequate	Number Substandard	Number Inadequate
Officer	4+	36	36	0	0
Officer	3	110	110	0	0
Officer	1 or 2	10	10	0	0
Enlisted	4+	169	169	0	0
Enlisted	3	444	444	0	0
Enlisted	1 or 2	194	194	0	0
Mobile Homes	0	0	0	0	0
Mobile Home lots	0	0	0	0	0

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the housing is inadequate; indicate how the housing is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. N/A; all facilities are adequate

27. For personnel assigned to your base and tenant activities who live in **government quarters other than yours,** indicate the plant account holder UIC for their quarters.

NONE. There are no government quarters other than those reported in Table 26.1.

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28. Provide the following information on **base infrastructure** capacity and load. R

Table 28.1

	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KWH)	261,048 MWH/YR	176,000 MWHR/YR	113,761MWHR/YR	16,679KW[2]
Natural Gas (CFH)	N/A	N/A	N/A	N/A
Sewage (GPD)	2MGD	N/A	1.4MGD	2.9MGD[3]
Potable Water (GPD)	4MGD	N/A	2MGD	3MGD
Steam (PSI & lbm/Hr)	N/A	N/A	N/A	N/A
Long Term Parking	N/A	N/A	N/A	N/A
Short Term Parking[1]	331,783SY	N/A	413,555SY	446,088SY

[1]Short term parking is reported from NAVFAC P-164. Capacity given is total parking area in square yards for the main base and all special areas. NAVSTA Roosevelt Roads does not homeport any ships and therefore requires no long term parking or fleet parking.
[2]Peak demand is a measured 15 minute load.
[3]When the peak demand for sewage exceeds the capacity, the NPDES permit is violated. This has only happened at Capehart and averaged 18 violations per year between Sept 90 - Dec 93. There is no apparent impact on the environment by these high volumes. R

28. Provide the following information on **base infrastructure** capacity and load.

Table 28.1

	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KWH)	261,048 MWH/YR	176,000 MWHR/YR	113,761MWHR/ YR	16,679KW[2]
Natural Gas (CFH)	N/A	N/A	N/A	N/A
Sewage (GPD)	2MGD	N/A	1.4MGD	2.9MGD[3]
Potable Water (GPD)	4MGD	N/A	2MGD	3MGD
Steam (PSI & lbm/Hr)	N/A	N/A	N/A	N/A
Long Term Parking	N/A	N/A	N/A	N/A
Short Term Parking[1]	331,783SY	N/A	413,555SY	446,088SY

[1]Short term parking is reported from NAVFAC P-164. Capacity given is total parking area in square yards for the main base and all special areas. NAVSTA Roosevelt Roads does not homeport any ships and therefore requires no long term parking or fleet parking.
[2]Peak demand is a measured 15 minute load.
[3]When the peak demand for sewage exceeds the capacity, the NPDES permit is violated.

29. Provide the maintenance, repair, and equipment expenditure data indicated in the following table for FYs 1985 - 1997

Table 29.1

Activity: ROOSEVELT ROADS UIC: 00389

Fiscal Year	MRP ($) [1]	CPV ($) [2]	ACE ($) [3]
FY1985	7,612,506[4]	1,109,878,571	N/AVAILABLE
FY1986	9,612,757[5]	1,182,241,468	N/AVAILABLE
FY1987	14,836,300[6]	1,194,589,492	386,000[17]
FY1988	12,290,000[7]	1,269,967,066	1,761,000[17]
FY1989	12,506,300[8]	1,296,296,024	2,136,000[17]
FY1990	53,139,124[9]	1,334,796,510	2,081,000[17]
FY1991	14,144,013[10]	1,368,530,145	1,825,000[17]
FY1992	18,431,552[11]	1,411,589,744	2,797,000[17]
FY1993	20,095,774[12]	1,166,201,999	3,198,000[17]
FY1994 22,046,458	23,718,444[13]	1,242,449,532	3,284,000[17]
FY1995	14,283,000[14]	1,289,662,615	3,376,000[17]
FY1996	14,438,000[15]	1,338,669,794	3,474,000[17]
FY1997	14,575,000[16]	1,389,539,247	3,579,000[17]

1,135,265,809
1,113,367,147

[1] **MRP:** __Maintenance of Real Property Dollars__ **is a budgetary term used to gather the expenses or budget requirements for facility work including recurring maintenance, major repairs, and minor construction (non-MILCON). It is the amount of funds spent on or budgeted for maintenance and repair of real property assets to maintain the facility in satisfactory operating condition.**

[2] **CPV:** __Current Plant Value__ **of Class 2 Real Property is the hypothetical dollar amount to replace a Class 2 facility in kind with today's dollars. Example: the cost today to replace a wood frame barracks with a wood frame barracks.**

[3] **ACE:** __Acquisition Cost of Equipment__ is the total cumulative acquisition cost of all "personal Property" equipment which includes the cost of installed equipment directly related to mission execution, such as lab test equipment. Class 2 installed capital equipment that is an integral part of the facility will not be reported as ACE.

[4] Certified MRP obligations ($6,120,000) plus major repairs and minor construction from other fund sources (CINCLANTFLT, LANTNAVFACENGCOM, BUPERS, NAF, DFSC, etc.).

[5] Certified MRP obligations ($7,971,000) plus estimated major repairs and minor construction from other fund sources.

[6]Certified MRP obligations ($7,976,000) plus major repairs and minor construction from other fund sources.
[7]Certified MRP obligations ($9,047,000) plus major repairs and minor construction from other fund sources.
[8]Certified MRP obligations ($8,939,000) plus estimated major repairs and minor construction from other fund sources.
[9]Certified MRP obligations ($12,731,000) plus major repairs and minor construction from other fund sources (Hurricane Hugo damages, i.e., Special Projects $36,408,124, and Family Housing repairs $4,000,000).
[10]Certified MRP obligations ($8,984,000) plus major repairs and minor construction from other fund sources.
[11]Certified MRP obligations ($9,285,000) plus major repairs and minor construction from other fund sources.
[12]Certified MRP obligations ($8,307,000) plus major repairs and minor construction from other fund sources.
[13]Projected MRP obligations ($7,913,000) plus major repairs and minor construction from other fund sources.
[14]Projected MRP obligations ($9,056,000) plus major repairs and minor construction from other fund sources.
[15]Projected MRP obligations ($9,045,000) plus major repairs and minor construction from other fund sources.
[16]Projected MRP obligations ($9,034,000) plus major repairs and minor construction from other fund sources.
[17]NAVSTA Roosevelt Roads and AFWTF data only. Data for other tenant commands not available.

30. Real Estate Resources. Identify in the table below the real estate resources which have the potential to facilitate future development and for which you are the plant account holder or into which, though a tenant, your activity could reasonably expect to expand. Complete a separate table for each individual site, i.e., main base, outlying airfields, special off-site areas, etc. The unit of measure is acres. Developed area is defined as land currently with buildings, roads, and utilities where further development is not possible without demolition of existing improvements. Include in "Restricted" areas that are restricted for future development due to environmental constraints (e.g., wetlands, landfills, archaeological sites), operational restrictions (e.g., ESQD arcs, HERO, HERP, HERF, AICUZ, ranges) or cultural resources restrictions. Identify the reason for the restriction when providing the acreage in the table. Specify any entry in "Other" (e.g., submerged lands). **Eight tables provide information for the question.**

Table 30.1: **Real Estate Resources**
Site Location: ROOSEVELT ROADS, MAIN COMPLEX

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	308	93	75[1,2]	140
Operational	2,726	1,681	324[3,4,5]	721
Training	3	3	0	0
R & D	0	0	0	0
Supply & Storage	363	110	5[6]	248
Admin	123	49	0	74
Housing	660	500	50[7]	110
Recreational[8]	749	345	0	404
Navy Forestry Program	2,930	32	2,898[9]	0
Navy Agricultural Outlease Program	176	3	0	173
Hunting/Fishing Programs	0	0	0	0
Other[10]	383	115	219[11,12]	49
Total:	8,421	2,931	3,571	1,919

[1]Landfill/installation restoration site: 53 acres
[2]ESQD: 2 acres
[3]ESQD: 187 acres
[4]Topographic constraints: 4 acres
[5]Airfield safety clearance: 133 acres
[6]ESQD: 5 acres
[7]Topographic constraints: 50 acres
[8]Includes beaches, playgrounds, playing courts, recreational buildings, religious ministry building, schools, and other personnel support facilities per NAVFAC P-80 and the Naval Station's Master Plan.
[9]Wetlands and critical habitats: 2,890 acres
[10]Includes medical and dental: 60 acres, Ordnance storage: 323 acres
[11]Topographic constraints: Medical, 7 acres
[12]ESQD: 135 acres. Out of this total, 37 acres are also encumbered by airfield safety clearances criteria.

Table 30.1: Real Estate Resources

Site Location: VIEQUES, EAST

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	0	0	0	0
Operational	8,037	7,737	270	30
Training	0	0	0	0
R & D	0	0	0	0
Supply & Storage	0	0	0	0
Admin	0	0	0	0
Housing	1	1	0	0
Recreational	43	43	0	0
Navy Forestry Program	0	0	0	0
Navy Agricultural Outlease Program	5,957	5,957	0	0
Hunting/Fishing Programs	0	0	0	0
Other	0	0	0	0
Total:	14,038	13,738	270	30

Table 30.1: Real Estate Resources

Site Location: VIEQUES, WEST

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	1	1	0	0
Operational	3,482	3,432	37	13
Training	0	0	0	0
R & D	0	0	0	0
Supply & Storage	3,740	3,740	0	0
Admin	1	1	0	0
Housing	1	1	0	0
Recreational	30	30	0	0
Navy Forestry Program	150	150	0	0
Navy Agricultural Outlease Program	0	0	0	0
Hunting/Fishing Programs	0	0	0	0
Other	0	0	0	0
Total:	7,405	7,355	37	13

Table 30.1: **Real Estate Resources**

Site Location: ST. THOMAS, USVI

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	0	0	0	0
Operational	7.16	7.16	0	0
Training	0	0	0	0
R & D	0	0	0	0
Supply & Storage	0	0	0	0
Admin	0	0	0	0
Housing	0	0	0	0
Recreational	0	0	0	0
Navy Forestry Program	0	0	0	0
Navy Agricultural Outlease Program	0	0	0	0
Hunting/Fishing Programs	0	0	0	0
Other	0	0	0	0
Total:	7.16	7.16	0	0

Table 30.1: **Real Estate Resources**

Site Location: ST. CROIX, USVI

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	0	0	0	0
Operational	10.62	10.62	0	0
Training	12.24	12.24	0	0
R & D	0	0	0	0
Supply & Storage	0	0	0	0
Admin	0	0	0	0
Housing	0	0	0	0
Recreational	0	0	0	0
Navy Forestry Program	0	0	0	0
Navy Agricultural Outlease Program	0	0	0	0
Hunting/Fishing Programs	0	0	0	0
other	0	0	0	0
Total:	22.86	22.86	0	0

Table 30.1: **Real Estate Resources**

Site Location: STOP 7 1/2, San Juan, PR

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	0	0	0	0
Operational	0	0	0	0
Training	0	0	0	0
R & D	0	0	0	0
Supply & Storage	0.2	0.2	0	0
Admin	1.3	1.3	0	0
Housing	4.0	4.0	0	0
Recreational	2.2	2.2	0	0
Navy Forestry Program	0	0	0	0
Navy Agricultural Outlease Program	0	0	0	0
Hunting/Fishing Programs	0	0	0	0
Other	0	0	0	0
Total:	7.7	7.7	0	0

Table 30.1: **Real Estate Resources**

Site Location: PICO DEL ESTE, Luquillo, PR

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	0	0	0	0
Operational	75.63	75.63	0	0
Training	0	0	0	0
R & D	0	0	0	0
Supply & Storage	0	0	0	0
Admin	0	0	0	0
Housing	0	0	0	0
Recreational	0	0	0	0
Navy Forestry Program	0	0	0	0
Navy Agricultural Outlease Program	0	0	0	0
Hunting/Fishing Programs	0	0	0	0
Other	0	0	0	0
Total:	75.63	75.63	0	0

Table 30.1: **Real Estate Resources**

Site Location: CULEBRA, PR

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	0	0	0	0
Operational	3	3	0	0
Training	0	0	0	0
R & D	0	0	0	0
Supply & Storage	0	0	0	0
Admin	0	0	0	0
Housing	0	0	0	0
Recreational	0	0	0	0
Navy Forestry	0	0	0	0
Navy Agricultural	0	0	0	0
Hunting/Fishing	0	0	0	0
Other (LEASED)	84	11	73[1]	0
Total:	87	14	73	0

[1]Restriction is due to the possible presence of unexploded ordnance. Approximately 90% of the area is covered with dense vegetation. Approximately 40% is rough steep terrain. Both factors inhibit the possibility of an ordnance sweep and cleaning for potential development. The land is outleased to Fish and Wildlife Service for use and surveillance as a conservation zone.

Weapons and Munitions Capacity

31. Does your activity perform any stowage or maintenance on any of the following ordnance commodities types: (Y/N) Y

(If YES, answer the question 31.a through 31.d; if NO skip to question 32)

ORDNANCE COMMODITY TYPES		
Mines	Expendables	LOE: Rockets
Torpedoes	INERT	LOE: Bombs
Air Launched Threat	CADS/PADS	LOE: Gun Ammo (20mm-16")
Surface Launched Threat		LOE: Small Arms (up to 50 cal)
Other Threat		LOE: Pyro/Demo
		Grenades/Mortars/Projectiles

31. Ordnance Stowage and Support

31.a Provide present and predicted inventories (coordinate with inventory control manager) and maximum rated capability of all stowage facilities at each weapons storage location controlled by this activity. In predicting the out year facility utilization, distribute overall ordnance compliment to the most likely configuration. The maximum rated capability is also an out year projection taking into account any known or programmed upgrades that may increase current stowage capacity. When listing stowage facilities, group by location, i.e. main base, outlying field, special area.

Table 31.1: **Total Facility Ordnance Stowage Summary, NAVSTA ROOS RDS**

Facility Number	PRESENT INVENTORY [1]		PREDICTED INVENTORY FY 2001		MAXIMUM RATED CAPABILITY[4]	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
NAVSTA ROOS RDS:						
1681	117	613	117	613	241	1,250
1682	58	788	58	788	91	1,250
1682A	46	238	46	238	241	1,250
300	220	2,020	220	2,020	435	4,000
301	0	0	0	0	48	216

Facility Number	PRESENT INVENTORY [1]		PREDICTED INVENTORY FY 2001		MAXIMUM RATED CAPABILITY[4]	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
302	0	0	0	0	884	4,000
303	0	0	0	0	663	3,000
305	1	6	1	6	15	140
306	1	8	1	8	7	70
307	1	10	1	10	14	140
308	2	19	2	19	13	140
309	1	3	1	3	20	140
310	2	56	2	56	3	140
311	8	616	8	616	17	1,250
312	16	304	16	304	67	1,250
313	28	361	28	361	97	1,250
314	8	344	8	344	27	1,250
358	14	69	14	69	206	1,000
359	5	76	5	76	59	1,000
360	7	50	7	50	136	1,000
384	12	177	12	177	87	1,250
763	0	0	0	0	266	1,200
764	52	250	52	250	251	1,200
765	13	79	13	79	198	1,200
766	46	176	46	176	313	1,200
SUB TOTAL	658	6,263	658	6,263	4,399	29,786

Table 31.1: Total Facility Ordnance Stowage Summary, NASD VIEQUES

Facility Number	PRESENT INVENTORY1		PREDICTED INVENTORY2 FY 2001		MAXIMUM RATED CAPABILITY[4]	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
NASD VIEQUES:						
221	EMPTY	0	EMPTY	0	81	2,000
222	EMPTY	0	EMPTY	0	81	2,000
223	EMPTY	0	EMPTY	0	178	2,000
224	EMPTY	0	EMPTY	0	178	2,000
411	158	405	158	405	1,949	5,000
201	EMPTY	0	EMPTY	0	81	2,000
202	EMPTY	0	EMPTY	0	81	2,000
203	EMPTY	0	EMPTY	0	81	2,000
204	EMPTY	0	EMPTY	0	81	2,000
205	EMPTY	0	EMPTY	0	81	2,000
206	EMPTY	0	EMPTY	0	81	2,000
207	EMPTY	0	EMPTY	0	81	2,000
208	EMPTY	0	EMPTY	0	81	2,000
209	EMPTY	0	EMPTY	0	81	2,000
210	EMPTY	0	EMPTY	0	81	2,000
211	EMPTY	0	EMPTY	0	81	2,000
212	EMPTY	0	EMPTY	0	81	2,000
213	EMPTY	0	EMPTY	0	81	2,000
214	EMPTY	0	EMPTY	0	81	2,000
215	EMPTY	0	EMPTY	0	81	2,000
216	EMPTY	0	EMPTY	0	81	2,000
217	EMPTY	0	EMPTY	0	81	2,000
218	EMPTY	0	EMPTY	0	81	2,000
219	EMPTY	0	EMPTY	0	81	2,000
220	EMPTY	0	EMPTY	0	81	2,000

Facility Number	PRESENT INVENTORY1		PREDICTED INVENTORY2 FY 2001		MAXIMUM RATED CAPABILITY[4]	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
234	EMPTY	0	EMPTY	0	178	2,000
235	EMPTY	0	EMPTY	0	178	2,000
236	EMPTY	0	EMPTY	0	UNK[4]	2,000
237	EMPTY	0	EMPTY	0	UNK[4]	2,000
238	EMPTY	0	EMPTY	0	UNK1[4]	2,000
239	EMPTY	0	EMPTY	0	UNK[4]	2,000
240	EMPTY	0	EMPTY	0	UNK[4]	2,000
241	EMPTY	0	EMPTY	0	UNK[4]	2,000
242	EMPTY	0	EMPTY	0	UNK[4]	2,000
243	EMPTY	0	EMPTY	0	UNK[4]	2,000
244	EMPTY	0	EMPTY	0	UNK[4]	2,000
245	EMPTY	0	EMPTY	0	UNK[4]	2,000
246	EMPTY	0	EMPTY	0	UNK[4]	2,000
247	EMPTY	0	EMPTY	0	UNK[4]	2,000
248	EMPTY	0	EMPTY	0	UNK[4]	2,000
249	EMPTY	0	EMPTY	0	UNK[4]	2,000
301A	EMPTY	0	EMPTY	0	444	2,000
301B	EMPTY	0	EMPTY	0	444	2,000
301C	EMPTY	0	EMPTY	0	444	2,000
302A	9	38	9	38	463	2,000
302B	12	234	12	234	96	2,000
302C	14	40	14	40	695	2,000
303A	27	136	27	136	395	2,000
303B	4	34	4	34	229	2,000
303C	5	70	5	70	140	2,000
304A	12	50	12	50	468	2,000
304B	37	280	37	280	266	2,000
304C	4	30	4	30	273	2,000

Facility Number	PRESENT INVENTORY1		PREDICTED INVENTORY2 FY 2001		MAXIMUM RATED CAPABILITY[4]	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
305A	12	340	12	340	68	2,000
305B	7	52	7	52	261	2,000
305C	8	120	8	120	137	2,000
306A	66	450	66	450	293	2,000
306B	47	320	47	320	296	2,000
306C	52	356	52	356	291	2,000
307A	146	392	146	392	743	2,000
307B	125	392	125	392	896	2,000
307C	62	276	62	276	426	2,000
308A	8	38	8	38	426	2,000
308B	EMPTY	0	EMPTY	0	580	2,000
308C	21	88	21	88	468	2,000
309A	135	490	135	490	550	2,000
309B	5	28	5	28	381	2,000
309C	12	44	12	44	540	2,000
310A	6	18	6	18	644	2,000
310B	15	24	15	24	1,208	2,000
310C	EMPTY	0	EMPTY	0	500	2,000
311A	15	96	15	96	306	2,000
311B	51	274	51	274	370	2,000
311C	EMPTY	0	EMPTY	0	500	2,000
312A	41	208	41	208	389	2,000
312B	56	226	56	226	492	2,000
312C	41	92	41	92	848	2,000
313A	48	144	48	144	670	2,000
313B	140	632	140	632	442	2,000
313C	46	200	46	200	459	2,000
250	EMPTY	0	EMPTY	0	UNK[4]	2,000

Facility Number	PRESENT INVENTORY1		PREDICTED INVENTORY2 FY 2001		MAXIMUM RATED CAPABILITY[4]	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
251	EMPTY	0	EMPTY	0	UNK[4]	2,000
252	EMPTY	0	EMPTY	0	UNK[4]	2,000
253	EMPTY	0	EMPTY	0	UNK[4]	2,000
254	EMPTY	0	EMPTY	0	UNK[4]	2,000
255	EMPTY	0	EMPTY	0	UNK[4]	2,000
256	EMPTY	0	EMPTY	0	UNK[4]	2,000
257	EMPTY	0	EMPTY	0	UNK[4]	2,000
258	EMPTY	0	EMPTY	0	UNK[4]	2,000
259	EMPTY	0	EMPTY	0	UNK4	2,000
260	EMPTY	0	EMPTY	0	81	2,000
261	EMPTY	0	EMPTY	0	81	2,000
262	EMPTY	0	EMPTY	0	81	2,000
263	EMPTY	0	EMPTY	0	81	2,000
264	EMPTY	0	EMPTY	0	81	2,000
265	EMPTY	0	EMPTY	0	81	2,000
266	EMPTY	0	EMPTY	0	81	2,000
267	EMPTY	0	EMPTY	0	81	2,000
268	EMPTY	0	EMPTY	0	81	2,000
269	EMPTY	0	EMPTY	0	81	2,000
412	3	35	3	35	371	5,000
413	0	0	0	0	1,105	5,000
414	153	915	153	915	834	5,000
415	148	245	148	245	3,010	5,000
416	165	405	165	405	2,029	5,000
417	235	640	235	640	1,839	5,000
418	430	3,780	430	3,780	569	5,000
419	0	0	0	0	965	5,000
420	134	375	134	375	1,778	5,000

Facility Number	PRESENT INVENTORY1		PREDICTED INVENTORY2 FY 2001		MAXIMUM RATED CAPABILITY4	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
421	70	740	70	740	472	5,000
422	177	2,985	177	2,985	295	5,000
423	336	2,325	336	2,325	723	5,000
424	122	990	122	990	614	5,000
425	395	3,775	395	3,775	522	5,000
225	22	100	22	100	106	500
226	10	53	10	53	86	500
227	EMPTY	0	EMPTY	0	86	500
228	1	4	1	4	78	500
229	25	134	25	134	93	500
230	8	41	8	41	86	500
231	EMPTY	0	EMPTY	0	100	500
232	1	2	1	2	125	500
233	35	189	35	189	91	500
401[3]	552	8,550	552	8,550	645	10,000
402[3]	230	4,830	230	4,830	475	10,000
403[3]	402	6,850	402	6,850	586	10,000
404[3]	122	1,780	122	1,780	684	10,000
405[3]	297	1,500	297	1,500	1,981	10,000
SUB TOTAL	5,520	47,860	5,520	47,860	43,142	445,500

[1]Present inventory based on "Space Utilization and Storage of Explosive/Inert Ammunition" Report dated 31 Dec 93. Due to high turnover of munitions in support of Fleet Operations, these numbers can increase/decrease by 15 percent monthly.
[2]Current planning indicates FY-2001 inventory should stay constant with present inventory. Closure of other ordnance handling or training facilities could result in increased mission tasking for this command which would revise projected stowage requirements.
[3]Inert Magazine
[4]Magazines for which maximum capacity is unknown have not been utilized for many years and are in a severe state of disrepair. Capacity is assumed to be zero.

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Table 31.1: continued

Facility Location	PRESENT INVENTORY[1]		PREDICTED INVENTORY FY 2001		MAXIMUM RATED[4] CAPABILITY	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
NAVSTA ROOS RDS:	658	6,263	658	6,263	4,399	29,786
VIEQUES	5,520	47,860	5,520	47,860	43,142	327,500
TOTAL	6,178	54,123	6,178	54,123	47,541	357,286

[1]Present inventory based on "Space Utilization and Storage of Explosive/Inert Ammunition" Report dated 31 Dec 93. Due to high turnover of munitions in support of Fleet Operations, these numbers can increase/decrease by 15 percent monthly.
[2]Current planning indicates FY-2001 inventory should stay constant with present inventory. Closure of other ordnance handling or training facilities could result in increased mission tasking for this command which would revise projected stowage requirements.
[3]Inert Magazine
[4]Magazines for which maximum capacity is unknown have not been utilized for many years and are in a severe state of disrepair. Capacity is assumed to be zero.

31.b For each Stowage facility identified in question 31.a above, identify the type of facility (specify if "igloo," "box," etc.). Identify the type of ordnance commodity (from the list above) which are currently stowed in that facility and all other ordnance types which, given existing restrictions, could be physically accommodated in that stowage facility. Specify below if such additional accommodation would require a modification of the facility (e.g. enhanced environmental controls, ESQD waiver). R R R R R R

Identify the reason(s) for which this ordnance is stored at your facility from the following list: own activity use (training); own activity use (operational stock); Receipt/Segregation/Stowage/Issue (RSSI); transhipment/awaiting issue; deep stow (war reserve); deep stow (awaiting Demil); other. Explain each "other" entry in the space provided, including ordnance stowed which is not a DON asset. R R R R R

Table 31.1: continued

Facility Location	PRESENT INVENTORY[1]		PREDICTED INVENTORY FY 2001		MAXIMUM RATED[4] CAPABILITY	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
NAVSTA ROOS RDS:	658	6,263	658	6,263	4,399	29,786
VIEQUES	5,520	47,860	5,520	47,860	43,142	327,500
TOTAL	6,178	54,123	6,178	54,123	47,541	357,286

[1]Present inventory based on "Space Utilization and Storage of Explosive/Inert Ammunition" Report dated 31 Dec 93. Due to high turnover of munitions in support of Fleet Operations, these numbers can increase/decrease by 15 percent monthly.
[2]Current planning indicates FY-2001 inventory should stay constant with present inventory. Closure of other ordnance handling or training facilities could result in increased mission tasking for this command which would revise projected stowage requirements.
[3]Inert Magazine
[4]Magazines for which maximum capacity is unknown have not been utilized for many years and are in a severe state of disrepair. Capacity is assumed to be zero.

Table 31.2: **Total Facility Ordnance Stowage Summary**

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
NAVSTA ROOS RDS:			
1681/Igloo	Bombs	RSSI	[1]
1682/Igloo	Bombs	RSSI	[1]
1682A/Igloo	Bombs	RSSI	[1]
300/Box	Small Arms	Training/RSSI	[1]
301/Box	CADS/Grenades	RSSI	[1]
302/Box	Rockets	RSSI	[1]
303/Box	Gun Ammo	RSSI	[1]
305/Tunnel	Demo	RSSI	[1]
306/Tunnel	Demo	RSSI	[1]
307/Tunnel	Demo	RSSI	[1]
308/Tunnel	Demo	RSSI	[1]
309/Tunnel	Demo	RSSI	[1]
310/Tunnel	Demo	RSSI	[1]
311/Igloo	Demo	RSSI	[1]
312/Igloo	Pyro	RSSI	[1]
313/Igloo	Demo	RSSI	[1]
314/Igloo	Bombs	RSSI	[1]
358/Dome	Pyro	RSSI	[1]
359/Dome	Mortars	RSSI	[1]
360/Dome	Air Launcher Threat	RSSI	[1]
384/Igloo	Air Launcher Threat	RSSI	[1]

Table 31.2: continued

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
763/Dome	Inert	RSSI	1
764/Dome	CADS	RSSI	1
765/Dome	CADS	RSSI	1
766/Dome	Small Arms	Training/RSSI	1
NASD VIEQUES:			
221/Igloo	Empty		Bombs
222/Igloo	Empty		Bombs
223/Igloo	Empty		Bombs
224/Igloo	Empty		Bombs
411/Box Type	Empty	Nothing stowed	Bombs
201/Igloo	Empty		Bombs
202/Igloo	Empty		Bombs
203/Igloo	Empty		Bombs
204/Igloo	Empty		Bombs
205/Igloo	Empty		Bombs
206/Igloo	Empty		Bombs
207/Igloo	Empty		Bombs
208/Igloo	Empty		Bombs
209/Igloo	Empty		Bombs
210/Igloo	Empty		Bombs
211/Igloo	Empty		Bombs
212/Igloo	Empty		Bombs

Table 31.2: continued

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
213/Igloo	Empty		Bombs
214/Igloo	Empty		Bombs
215/Igloo	Empty		Bombs
216/Igloo	Empty		Bombs
217/Igloo	Empty		Bombs
218/Igloo	Empty		Bombs
219/Igloo	Empty		Bombs
220/Igloo	Empty		Bombs
234/Igloo	Empty		Bombs
235/Igloo	Empty		Bombs
236/Igloo	Empty		Bombs
237/Igloo	Empty		Bombs
238/Igloo	Empty		Bombs
239/Igloo	Empty		Bombs
240/Igloo	Empty		Bombs
241/Igloo	Empty		Bombs
242/Igloo	Empty		Bombs
243/Igloo	Empty		Bombs
244/Igloo	Empty		Bombs
245/Igloo	Empty		Bombs
246/Igloo	Empty		Bombs
247/Igloo	Empty		Bombs
248/Igloo	Empty		Bombs

Table 31.2: continued

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
249/Igloo	Empty		Bombs
301A/Igloo	Empty		Bombs
301B/Igloo	Empty		Bombs
301C/Igloo	Empty		Demo
302A/Igloo	Pyro/Chem	RSSI	[1]
302B/Igloo	Pyro/Chem	RSSI	[1]
302C/Igloo	Pyro/Chem	RSSI	[1]
303A/Igloo	Mines	RSSI	Bombs
303B/Igloo	Rockets	RSSI	[1]
303C/Igloo	Demo	RSSI	[1]
304A/Igloo	Grenades	RSSI	[1]
304B/Igloo	Pyro	RSSI	[1]
304C/Igloo	Demo	RSSI	[1]
305A/Igloo	Demo	RSSI	[1]
305B/Igloo	Demo	RSSI	[1]
305C/Igloo	Demo	RSSI	[1]
306A/Igloo	Demo	RSSI	[1]
306B/Igloo	Demo	RSSI	[1]
306C/Igloo	Demo	RSSI	[1]
307A/Igloo	Small Arms	RSSI	[1]
307B/Igloo	Small Arms	RSSI	[1]
307C/Igloo	Gun Ammo	RSSI	[1]
308A/Igloo	Gun Ammo	RSSI	[1]
308B/Igloo	Empty		Missiles

Table 31.2: continued

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
308C/Igloo	Small Arms	RSSI	[1]
309A/Igloo	Rockets	RSSI	[1]
309B/Igloo	Rockets	RSSI	[1]
309C/Igloo	Rockets	RSSI	[1]
310A/Igloo	Rockets	RSSI	[1]
310B/Igloo	Rockets	RSSI	[1]
310C/Igloo	Rockets	RSSI	[1]
311A/Igloo	Gun Ammo	RSSI	[1]
311B/Igloo	Gun Ammo	RSSI	[1]
311C/Igloo	Empty		[1]
312A/Igloo	Gun Ammo	RSSI	[1]
312B/Igloo	Gun Ammo	RSSI	[1]
312C/Igloo	Gun Ammo	RSSI	[1]
313A/Igloo	Gun Ammo	RSSI	[1]
313B/Igloo	Missiles	RSSI	[1]
313C/Igloo	Missiles	RSSI	[1]
250/Igloo	Empty		Bombs
251/Igloo	Empty		Bombs
252/Igloo	Empty		Bombs
253/Igloo	Empty		Bombs
254/Igloo	Empty		Bombs
255/Igloo	Empty		Bombs
256/Igloo	Empty		Bombs
257/Igloo	Empty		Bombs

Table 31.2: continued

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
258/Igloo	Empty		Bombs
259/Igloo	Empty		Bombs
260/Igloo	Empty		Bombs
261/Igloo	Empty		Bombs
262/Igloo	Empty		Bombs
263/Igloo	Empty		Bombs
264/Igloo	Empty		Bombs
265/Igloo	Empty		Bombs
266/Igloo	Empty		Bombs
267/Igloo	Empty		Bombs
268/Igloo	Empty		Bombs
269/Igloo	Empty		Bombs
412/Box Type	Bombs	RSSI	Bombs
413/Box Type	Empty		Bombs
414/Box Type	Small Arms	RSSI	[1]
415/Box Type	Small Arms	RSSI	[1]
416/Box Type	Bombs	RSSI	Bombs
417/Box Type	Bombs	RSSI	Bombs
418/Box Type	Bombs	RSSI	Bombs
419/Box Type	Rocket Motors	RSSI	Bombs
420/Box Type	Gun Ammo	RSSI	[1]
421/Box Type	Pyro/Chem	RSSI	[1]
422/Box Type	Bombs	RSSI	[1]
423/Box Type	60mm	RSSI	[1]

Table 31.2: continued

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
424/Box Type	Small Arms	RSSI	[1]
425/Box Type	Bombs	RSSI	[1]
225/Non Std	Fuze/Det	RSSI	[1]
226/Non Std	Fuze/Det	RSSI	[1]
227/Non Std	Empty		[1]
228/Non Std	Demo	RSSI	[1]
229/Non Std	Fuze/Det	RSSI	[1]
230/Non Std	Fuze/Det	RSSI	[1]
231/Non Std	Empty		[1]
232/Non Std	Blasting Caps	RSSI	[1]
233/Non Std	Fuze/Det	RSSI	[1]
401/Box Type	Inert	RSSI	[1]
402/Box Type	Inert	RSSI	[1]
403/Box Type	Inert	RSSI	[1]
404/Box Type	Inert	RSSI	[1]
405/Box Type	Inert	RSSI	[1]

[1]Any commodity (Class/Division) based on Hazard Rating

31.c Identify the rated category, rated NEW and status of ESQD arc for each stowage facility listed above.

Table 31.3: **Facility Rated Status**

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
NAVSTA ROOS RDS:					
1681/Igloo	1.1	125,000	Y	N/A	N/A
1682/Igloo	1.1	125,000	Y	N/A	N/A
1682A/Igloo	1.1	60,000	Y	N/A	N/A
300/Box	1.4S	PC	N/A	N/A	N/A
301/Box	1.2 (08)	5,000	Y	N/A	N/A
302/Box	1.2 (08)	300,000	Y	N/A	N/A
303/Box	1.4	300,000	Y	N/A	N/A
305/Tunnel	1.1	15,000	Y	N/A	N/A
306/Tunnel	1.2 (04)	7,500	Y	N/A	N/A
307/Tunnel	1.1	15,000	Y	N/A	N/A
308/Tunnel	1.1	15,000	Y	N/A	N/A
309/Tunnel	1.1	15,000	Y	N/A	N/A
310/Tunnel	1.1	15,000	Y	N/A	N/A
311/Igloo	1.1	55,000	Y	N/A	N/A
312/Igloo	1.1	45,000	Y	N/A	N/A
313/Igloo	1.1	50,000	Y	N/A	N/A
314/Igloo	1.1	30,000	Y	N/A	N/A
358/Dome	1.3	125,000	Y	N/A	N/A
359/Dome	1.2 (04)	10,000	Y	N/A	N/A
360/Dome	1.3	125000	Y	N/A	N/A

Table 31.3: continued

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
384/Igloo	1.1	40,000	Y	N/A	N/A
763/Dome	1.3	125,000	Y	N/A	N/A
764/Dome	1.2(08)	125,000	Y	N/A	N/A
765/Dome	1.4	125,000	Y	N/A	N/A
766/Dome	1.4	30,000	Y	N/A	N/A
NASD VIEQUES:					
221/Single Igloo	1.1	500,000	Y	N	N/A
222/Single Igloo	1.1	500,000	Y	N	N/A
223/Single Igloo	1.1	500,000	Y	N	N/A
224/Single Igloo	1.1	500,000	Y	N	N/A
411/Box type	1.1	500,000	Y	N	N/A
201/Single Igloo	1.1	262,000	Y	N/A	N/A
202/Single Igloo	1.1	238,000	Y	N/A	N/A
203/Single Igloo	1.1	160,000	Y	N/A	N/A
204/Single Igloo	1.1	397,000	Y	N/A	N/A
205/Single Igloo	1.1	226,000	Y	N/A	N/A
206/Single Igloo	1.1	155,000	Y	N/A	N/A
207/Single Igloo	1.1	405,000	Y	N/A	N/A
208/Single Igloo	1.1	210,000	Y	N/A	N/A
209/Single Igloo	1.1	140,000	Y	N/A	N/A
210/Single Igloo	1.1	91,000	Y	N/A	N/A
211/Single Igloo	1.1	314,000	Y	N/A	N/A

Table 31.3: continued

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
212/Single Igloo	1.1	343,000	Y	N/A	N/A
213/Single Igloo	1.1	206,000	Y	Y	N/A
214/Single Igloo	1.1	206,000	Y	Y	N/A
215/Single Igloo	1.1	206,000	Y	Y	N/A
216/Single Igloo	1.1	389,000	Y	N	N/A
217/Single Igloo	1.1	233,000	Y	N	N/A
218/Single Igloo	1.1	389,000	Y	N	N/A
219/Single Igloo	1.1	500,000	Y	N	N/A
220/Single Igloo	1.1	500,000	Y	N	N/A
234/Single Igloo	1.1	500,000	Y	N	N/A
235/Single Igloo	1.1	500,000	Y	N	N/A
236/Single Igloo	1.1	500,000	Y	N	N/A
237/Single Igloo	1.1	500,000	Y	N	N/A
238/Single Igloo	1.1	500,000	Y	N	N/A
239/Single Igloo	1.1	500,000	Y	N	N/A
240/Single Igloo	1.1	500,000	Y	N	N/A
241/Single Igloo	1.1	500,000	Y	N	N/A
242/Single Igloo	1.1	500,000	Y	N	N/A
243/Single Igloo	1.1	500,000	Y	N	N/A
244/Single Igloo	1.1	500,000	Y	N	N/A
245/Single Igloo	1.1	500,000	Y	N	N/A
246/Single Igloo	1.1	500,000	Y	N	N/A
247/Single Igloo	1.1	500,000	Y	N	N/A

Table 31.3: continued

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
248/Single Igloo	1.1	500,000	Y	N	N/A
249/Single Igloo	1.1	500,000	Y	N	N/A
250/Single Igloo	1.1	500,000	Y	N	N/A
251/Single Igloo	1.1	500,000	Y	N	N/A
252/Single Igloo	1.1	500,000	Y	N	N/A
253/Single Igloo	1.1	500,000	Y	N	N/A
254/Single Igloo	1.1	500,000	Y	N	N/A
255/Single Igloo	1.1	500,000	Y	N	N/A
256/Single Igloo	1.1	500,000	Y	N	N/A
257/Single Igloo	1.1	500,000	Y	N	N/A
258/Single Igloo	1.1	500,000	Y	N	N/A
259/Single Igloo	1.1	500,000	Y	N	N/A
260/Single Igloo	1.1	500,000	Y	N	N/A
261/Single Igloo	1.1	500,000	Y	N	N/A
262/Single Igloo	1.1	500,000	Y	N	N/A
263/Single Igloo	1.1	500,000	Y	N	N/A
264/Single Igloo	1.1	500,000	Y	N	N/A
265/Single Igloo	1.1	500,000	Y	N	N/A
266/Single Igloo	1.1	500,000	Y	N	N/A
267/Single Igloo	1.1	500,000	Y	N	N/A
268/Single Igloo	1.1	500,000	Y	N	N/A
269/Single Igloo	1.1	500,000	Y	N	N/A
412/Box	1.1	500,000	Y	N	N/A

Table 31.3: continued

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
413/Box	1.1	500,000	Y	N	N/A
414/Box	1.1	500,000	Y	N	N/A
415/Box Type	1.1	500,000	Y	N	N/A
416/Box Type	1.1	500,000	Y	N	N/A
417/Box Type	1.1	500,000	Y	N	N/A
418/Box Type	1.1	500,000	Y	N	N/A
419/Box Type	1.1	500,000	Y	N	N/A
420/Box Type	1.1	500,000	Y	N	N/A
421/Box Type	1.1	500,000	Y	N	N/A
422/Box Type	1.1	500,000	Y	N	N/A
423/Box Type	1.1	500,000	Y	N	N/A
424/Box Type	1.1	500,000	Y	N	N/A
425/Box Type	1.1	500,000	Y	N	N/A
225/Non Std	1.1	70,000	Y	N	N/A
226/Non Std	1.1	70,000	Y	N	N/A
227/Non Std	1.1	70,000	Y	N	N/A
228/Non Std	1.1	70,000	Y	N	N/A
229/Non Std	1.1	70,000	Y	N	N/A
230/Non Std	1.1	70,000	Y	N	N/A
231/Non Std	1.1	70,000	Y	N	N/A
232/Non Std	1.1	70,000	Y	N	N/A
233/Non Std	1.1	70,000	Y	N	N/A
301-A Igloo	1.1	83,000	Y	N	N/A

Table 31.3: continued

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established	Waiver	Waiver
301-B Igloo	1.1	83,000	Y	N	N/A
301-C Igloo	1.1	84,000	Y	N	N/A
302-A Igloo	1.1	83,000	Y	N	N/A
302-B Igloo	1.1	83,000	Y	N	N/A
302-C Igloo	1.1	84,000	Y	N	N/A
303-A Igloo	1.1	83,000	Y	N	N/A
303-B Igloo	1.1	83,000	Y	N	N/A
303-C Igloo	1.1	84,000	Y	N	N/A
304-A Igloo	1.1	83,000	Y	N	N/A
304-B Igloo	1.1	83,000	Y	N	N/A
304-C Igloo	1.1	84,000	Y	N	N/A
305-A Igloo	1.1	83,000	Y	N	N/A
305-B Igloo	1.1	83,000	Y	N	N/A
305-C Igloo	1.1	84,000	Y	N	N/A
306-A Igloo	1.1	83,000	Y	N	N/A
306-B Igloo	1.1	83,000	Y	N	N/A
306-C Igloo	1.1	84,000	Y	N	N/A
307-A Igloo	1.1	83,000	Y	N	N/A
307-B Igloo	1.1	83,000	Y	N	N/A
307-C Igloo	1.1	84,000	Y	N	N/A
308-A Igloo	1.1	83,000	Y	N	N/A
308-B Igloo	1.1	83,000	Y	N	N/A
308-C Igloo	1.1	84,000	Y	N	N/A
309-A Igloo	1.1	83,000	Y	N	N/A
309-B Igloo	1.1	83,000	Y	N	N/A

Table 31.3: continued

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
309-C Igloo	1.1	84,000	Y	N	N/A
310-A Igloo	1.1	83,000	Y	N	N/A
310-B Igloo	1.1	83,000	Y	N	N/A
310-C Igloo	1.1	84,000	Y	N	N/A
311-A Igloo	1.1	83,000	Y	N	N/A
311-B Igloo	1.1	83,000	Y	N	N/A
311-C Igloo	1.1	84,000	Y	N	N/A
312-A Igloo	1.1	83,000	Y	N	N/A
312-B Igloo	1.1	83,000	Y	N	N/A
312-C Igloo	1.1	84,000	Y	N	N/A
313-A Igloo	1.1	83,000	Y	N	N/A
313-B Igloo	1.1	83,000	Y	N	N/A
313-C Igloo	1.1	83,000	Y	N	N/A
401-Box Type[1]	N/A	N/A	N/A	N/A	N/A
402-Box Type[1]	N/A	N/A	N/A	N/A	N/A
403-Box Type[1]	N/A	N/A	N/A	N/A	N/A
404-Box Type[1]	N/A	N/A	N/A	N/A	N/A
405-Box Type[1]	N/A	N/A	N/A	N/A	N/A

[1]Inert

R

Naval Station Capacity Analysis Data Call UIC: 00389

31.d. Identify any restrictions which prevent maximum utilization of your facilities. If restrictions are based on facility conditions, specify reason, the cost to correct the deficiency, and identify any programmed projects that will correct the deficiency and/or increase your capability. R

The primary restriction which prevents maximum utilization is facility condition. Restrictions of "inactive" magazines and estimated cost to achieve maximum utilization are as follows:

Mag number	Restriction
201-210	Currently empty. Restricted due to location near property boundary and proximity to local community. Road repair costs are estimated to be $300,000.
211-224	Currently empty. Requires road and storm drainage repairs. Estimated construction costs are $500,000.
234-249	Currently empty. Requires structural repair, door replacement, site clearing. Estimated construction costs are $100,000/ magazine. Road and storm drainage repair cost is $1,250,000.
250-259	Currently empty. Requires road and storm drainage repairs. Estimated cost $500,000.
260-269	Currently empty. Requires structure repairs, door replacement, site clearing. Estimated construction costs are $100,000/ magazine. Roads and storm drainage repair cost is $1,000,000.

31.c. Identify any restrictions which prevent maximum utilization of your facilities. If restrictions are based on facility conditions, specify reason, the cost to correct the deficiency, and identify any programmed projects that will correct the deficiency and/or increase your capability.

The primary restriction which prevents maximum utilization is facility condition. Restrictions of "inactive" magazines and estimated cost to achieve maximum utilization are as follows:

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250-259	Currently empty. Requires road and storm drainage repairs. Estimated cost $500,000.
260-269	Currently empty. Requires structure repairs, door replacement, site clearing. Estimated construction costs are $100,000/ magazine. Roads and storm drainage repair cost is $1,000,000.

31.e Identify if your activity performs any of the following functions on any of the ordnance commodities previously listed. Technical support includes planning, financial, administrative, process engineering and SOP support. Within each related function identify each ordnance commodity type for which you provide these services and the total Direct Labor Man Hours (DLMHs) expended (FY 1994); identify only those DLMHs expended by personnel under your command.

Table 31.5: **Related Ordnance Support**

Related Functions	Performed? (Y / N)	Type of Commodity	DLMHs
Maintenance (specify level)	N	N/A	None
Testing	N	N/A	None
Manufacturing	N	N/A	None
Outload	UNK	N/A	UNK
Technical Support	Y	All previously identified	142,880

32. Do you have the ability to operate and maintain naval aircraft?
(Y/N) YES
(If YES, answer questions 33 through 48: if NO data call is complete.)

33a. For the **main airfield and each auxiliary airfield,** answer the following questions:

Airfield Name: Ofstie Field, Navsta Roosevelt Roads

For each runway, give its designation, length, width, load capacity, lighting configurations, and arresting gear types. For each runway list any approach obstructions or any restrictions on flight patterns.

Table 33.1

Runway	Length (ft)	Width (ft)	Max load	Lighting				Arresting Gear Type(s)
				F	P	C	N	
7/25	11,000	200	338,000		X[1]			E-28

[1]Mark 8 portable Fresnel Lens Lights

F -- Full lighting (runway edge, center, and threshold)

P -- Partial lighting (less than full) - runway edge and threshold. Does not have centerline lighting.

C -- Carrier deck lighting simulated

N -- No lighting

33.b.Provide the **composition** (concrete, asphalt) and **load bearing capacity** of your aprons, ramps and taxiway.

Table 33.2

Apron/ramp/taxiway Location - ID	SF	Comp.	Load Bearing Capacity	Comments
18/36	947,500	Concrete	215,000	Closed R/W
North Apron	1,982,490	Concrete	345,000	
South Apron	645,000	Concrete	200,000	
North Taxiway	359,063	Concrete/ Asphalt	345,000	
South Taxiway	220,313	Concrete/ Asphalt	200,000	
Taxiway 7/25	823,125	Concrete/ Asphalt	338,000	

33.c. Do you have **high speed taxiways?** Discuss number and impact on airfield operations.

No. NAVSTA Roosevelt Roads has a full length taxiway parallel to Runway 7/25.

33.d. Are **all runways** with approved instrument approaches served by **hi-speed taxiways?**

No. NAVSTA Roosevelt Roads has a full length taxiway parallel to Runway 7/25.

33.e. List any restrictions to **runways with approach obstructions** or any **restrictions on flight patterns.** Explain

No control tower traffic pattern North of runway 07/25 due to mountainous terrain. Precision approach to runway 7 wavered due to 1050' hill left of centerline at 1½-2 miles from the end of the runway.

33.f. For the main airfield and each auxiliary and outlying field, discuss any **runway design features** that are specific to particular types of aircraft (i.e., are the airfield facilities designated primarily fixed wing jet, prop, or helo aircraft?)

No particular runway design features.

34.a. List the **number of flight operations** (take-off, landing, or approach without landing) that the main airfield and all auxiliary fields can support on an hourly basis in both VMC and IMC. Comment on the factors at each field that limit this capacity (e.g., taxiway/runway limitations, airspace, ATC restrictions, environmental restrictions).

Table 34.1

Airfield	# Flight Ops/Hr		Comments on Limiting Factors
	IMC	VMC	
Main	60	90	Hangar facilities on opposite side of airfield. Only 1 parallel taxiway. Operations conducted with "heavys" would effectively reduce the number of flights for 1 hr due to wave turbulence criteria.
Auxiliary[1]	None	None	N/A

34.b. Provide the average number of **(historical) flight operations** per month conducted at this station and the total number of days during which these operations were conducted. If data is not normally recorded, include estimates (and how derived). A flight operation is defined as a take-off, landing, or approach without a landing.

Table 34.2

FY	Main Airfield		Auxiliary Field[1]		Auxiliary Field[1]		Auxiliary Field[1]	
	# Ops	# Days	# Ops	# Days	# Ops.	# Days	# Ops.	# Days
1991	6,242	30						
1992	6,458	30						
1993	6,015	30						

[1]No Auxiliary field.

34.c.What **percent** of your flight operations are **Fleet Carrier Landing Practices** (FCLPs)?

1/10 of 1 percent.

34.d. Are you designated as an **authorized divert field** for any non-DoD aircraft? Explain.

Yes. Authorized divert for San Juan International Airport American Eagle.

34.e. Is your airfield designated as a **joint use airfield** (i.e. civilian/military)? Explain.

No.

34.f. What **percentage of total operations are civilian**?

With respect to air traffic control, the following percentages apply for air space entrance by civilian aircraft flying between Vieques and Fajardo:

1991 - 39.8%
1992 - 37.3%
1993 - 36.9%

34.g. Describe the major **civilian air traffic structures** (routes, terminal control areas, approaches, etc.) discuss the present and likely future impact of each on air station operations.

Routes 2 and 6 to the North are expected to increase with civilian traffic due to the opening of the El Conquistador resort.

34.h. Are there any **air traffic control constraints**/procedures that currently, or may in the future, limit air station operations? If yes, fully explain impact.

No.

35. List all **NAVAIDS** with published approaches that support the main airfield and/or your auxiliary airfields. Note any additions/upgrades to be added between now and FY1997.

Table 35.1

NAVAID	DESCRIPTION/LOCATION
TACAN	VRN-25 On Airfield

36.a. List all **active duty** Navy/USMC **squadrons/detachments** and the number of aircraft by type, model, and series (T/M/S), that will be permanently stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Table 36.1

Squadron/Det	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
VC-8	6	TA-4J	6	6	6	6	0
VC-8	6	5H-3H	6	6	6	6	6
PATRON ROSEY[1]	9	P-3C	9	9	9	9	9

[1]VP squadron is not permanently stationed at NAVSTA Roosevelt Roads. There is a permanent presence, however, since NAVSTA Roosevelt Roads is a deployment site for VP squadrons. Squadrons rotate every six months.

36.b. Summarize average **visiting squadron/det loading** on air station operations(i.e. airwing/wing weapons deployment).

Table 36.2

Squadron/Det Size (#A/C)	Apron Space Used	Hangar Space Assigned	Maintenance Support	Ave length of stay
Comprehensive unit training exercises CVW's (40 A/C)	80% of available space	East side Hangar 200 transient space North side airfield	Dedicated Support Equipment. Ground Support Equipment Fuel AIMD	14 days at 3 times per years
VS FRS (6 A/C)	20%	4 Spaces Hangar 200	Support equipment, Fuel AIMD	10 days at 2 times per year
926th USAFR Fighter Squadrons (8 A/C)	50%	4 Spaces Hangar 200	Support equipment, Fuel AIMD	16 days at 2 times per year
Various Dets AEWINGLANT (2 A/C)	20%	2 Spaces Hangar 200	Support equipment, Fuel AIMD	1-6 months at 12 times per year
Various Squadrons SEACONWING LANT (3 A/C)	20%	2 Spaces Hangar 200	Support equipment, Fuel AIMD	30 days at 8 times per year

36.c. If a major percent of flight operations at your air station is from other than permanently stationed squadron/detachments, provide explanation.

Permanent presence P-3 Reserve and S-3/E-2 Dets ISO Counter Drug Operation. Also, steady flow of detachments utilizing training ranges.

37.a. List all **reserve Navy/USMC squadrons/detachments** and the number of aircraft by type, model, and series (T/M/S), which will be stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Table 37.1

Squadron/Det	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
Various PATRESWINGSLANT Dets	3	P-3C	3	3	3	3	3

38. List all **Station aircraft** by number, type, model, and series (T/M/S), which will be parked or stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Table 38.1

Squadron/ Custodian	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
NAVSTA ROOS RDS	2	UC-12B	2	2	2	2	2
NAVSTA ROOS RDS	1	RC-12M	1	1	1	1	1

39. List all **DoD and non-DoD aircraft** not previously listed, by custodian, including number, type, model, and series (T/M/S) of aircraft, which will be parked or stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Table 39.1

Service/ Agency/ Custodian	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
NONE							

40.a. List other **operational command or support units** (i.e.. air wing staffs, MWSG, MWSS, MACG, MASS, etc.) stationed at this installation. For each Unit, give the unit identification number/UIC, mission, and facilities required (currently being used) to support the unit (i.e. equipment parking - 2500 SF; maintenance shop-200 SF; etc.).

Table 40.1

Support Unit Identification/ UIC	Mission	Facilities Required	Equipment Laydown Requirement (covered/ uncovered in SF)
NONE			

40.b. Due to BRAC or other realignments, what increases/decreases in operational command or support units will occur at your installation. Provide expected gains/losses by year through 2001.

There are no known increases/decreases in operational or support units scheduled to occur at Roosevelt Roads through the year 2001.

41.a. List all **other USN/USNR, USMC/USMCR, and other DoD or non-DoD active and SELRES units** not listed previously, that are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Table 41.1

Unit	Active or Reserve	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
USMCR	Reserve	115	115	115	115	115

Note: Data provided is total number personnel assigned.

42.b. For each **Special Use Airspace (SUA)** or airspace-for-special use routinely used by squadrons/units assigned to your installation (regardless of location[1]), indicate how many hours per year are **required for** each user to maintain required **readiness**. Special Use Airspace includes alert areas, military operating areas (MOA), restricted areas, and warning areas which are used for air-to-air, air-to-ground, electronic (EW, ECM), low level training routes (MTRs), and other training.

[1] include RON/domestic deployment training

Table 42.1

SUA	Location/Distance	Types/Uses	Scheduling Authority (UIC)	Squadron/Unit	Training Requirement (types of training)	Yearly Usage Rate (Hrs)
W-368	43 NM North	Air to Air warfare	0017A	Navy Marine	Same as type/uses	840
		Surface to Air warfare		Army Air Force		170
		Air to Surface warfare		Foreign Military		220
		Electronic warfare				
		Flight Ops				
W-369	35 NM North	Same as W-368	0017A	Navy Marine	Same as type/uses	630
				Army Air Force		130
				Foreign Military		170
W-370	35 NM South West	same as W-386	0017A	Navy Marine	Same as type/uses	920
				Army Air Force		190
				Foreign Military		240

SUA	Location/Distance	Types/Uses	Scheduling Authority (UIC)	Squadron/Unit	Training Requirement (types of training)	Yearly Usage Rate (Hrs)
W-372	35 NM North	Same as W-386	0017A	Navy Marine Army Air Force Foreign Military	Same as type/uses	400 80 105
W-373	24 NM North	Same as W-386	0017A	Navy Marine Army Air Force Foreign Military	Same as type/uses	920 190 240
W-374	55 NM South West	Flight Ops	0017A	Navy Marine Army Air force Foreign Military	Same as type/uses	90 20 O
W-375 W-376	90 NM South West	Flight Ops	0017A	Navy Marine Army Air Force Foreign Military	Same as type/uses	90 20 0
W-377	88 NM South West	Same as W-386	0017A	Navy Marine Army Air force Foreign Military	Same as type/uses	320 70 85

SUA	Location/Distance	Types/Uses	Scheduling Authority (UIC)	Squadron/Unit	Training Requirement (types of training)	Yearly Usage Rate (Hrs)
W-428	15 NM East	See Table 42.1	0017A	Navy Marine	Same as type/uses	1090
				Army Air force		220
				Foreign Military		290
W-429	105 NM East	Same as W-386	0017A	Navy Marine	Same as type/uses	470
				Army Air Force		100
				Foreign Military		120
R-7104	15 NM East	See Table 42.1	0017A	Navy Marine	Same as type/uses	1090
				Army Air force		220
				Foreign Military		290

Remarks: None

42c. For each **Special Use Airspace (SUA)** or airspace-for-special-use complete the following table:

Table 42.2

SUA	Location/ Distance	Types/Uses	Scheduling Authority (UIC)	Fiscal Year	Scheduled	Utilized[1]	Operating Limitations[2]
					# Hours	# Hours	
W-368	43 NM North	See Table 42.1	0017A	1991	1690	1440	None
				1992	1740	1150	None
				1993	1380	1230	None
W-369	35 NM North	Same as W-368	0017A	1991	1380	1170	None
				1992	1470	990	None
				1993	1060	930	None
W-370	35 NM South West	Same as W-368	0017A	1991	1090	920	None
				1992	1120	1030	None
				1993	1190	1020	None
W-372	35 NM North	Same as W-368	0017A	1991	690	580	None
				1992	720	570	None
				1993	630	580	None
W-373	24 NM North	Same as W-368	0017A	1991	1640	1390	None
				1992	1680	1550	None
				1993	1450	1350	None
W-374	55NM South West	Flight Ops	0017A	1991	190	160	NO LIVE FIRING

				1992	210	100	NO LIVE FIRING
				1993	130	110	NO LIVE FIRE
W-375 W-376	90 NM South West	Flight Ops	0017A	1991	160	140	NO LIVE FIRE
				1992	180	100	NO LIVE FIRE
				1993	130	110	None
W-377	88 NM South East	Same as W-368	0017A	1991	330	280	None
				1992	350	230	None
				1993	500	4670	None
W-428	15 NM East	See Table 42.1	0017A	1991	2460	2090	None
				1992	2710	2260	None
				1993	1870	1600	None
W-429	105 NM North	Same as W-368	0017A	1991	1090	930	None
				1992	1140	900	None
				1993	810	700	None

R-7104	15 NM East	AIr to Ground warfare Naval Gunfire Mine Ex Small Airms Fire Amphib		1991	2590	2200	None
				1992	2710	2260	None
				1993	1870	1600	None

[1] For the "Utilized" values, provide reasons for hours scheduled, but not utilized (e.g. 40% canceled due to weather; 10% canceled for unscheduled range maintenance, etc.).
[2] Provide any comments on operating limitations.

Total scheduled hours were not required to complete training.

There are no operating limitations.

42d. Assuming that the flight training facility is **not constrained by operational funding** (personnel support, increased overhead costs, etc.), with the present equipment, physical plant, etc. , what **additional use of airspace assets** could be realized? Provide details and assumptions for all calculations.

Airspace assets could support approximately four times the present usage. Although the range airspace is currently available 2088 hours per year based on current manning, the present equipment could handle a 300% increase in air traffic. Airspace is currently scheduled for "exclusive" use only. With the upcoming upgrade to Fleet Area Control and Surveillance Facility (FACSFAC), airspace could be scheduled for multiple flights. Also, PMA-248 long range plans for AFWTF include a Tactical Combat Training System (TCTS) range. Finally, the close proximity of the Warning Areas to Naval Station Roosevelt Roads and ideal weather conditions makes this airspace ideal for any U.S. Navy or U.S Air Force future training requirements. The limiting factor for increased flight operations at Roosevelt Roads may well rest with the limitations imposed by having only a single runway.

42h. In the event that it became necessary to increase base loading at your installation, does the **airspace** overlying and adjacent to your installation have the **capacity** to assume an additional workload? Estimate the percentage of the possible increase. Provide the basis/calculations for these estimates.

An estimate of the percentage of increased workload that airspace adjacent to and overlying Naval Station Roosevelt Roads can handle is 300%. The upgrading of the present facility to a Fleet Area Control and Surveillance Facility (FACSFAC) could accommodate a 300% increase in air traffic and will greatly enhance flight safety within the Special Use Airspace.

43.a. Using the types (and mix) of aircraft currently stationed at your installation, project the additional number of these aircraft (maintain approximate current mix/ratio of A/C) that could be based and parked on your **current parking aprons.**
Provide two estimates:
1. Using NAVFAC P-80 standard measures
2. Using real world planning factors to accommodate a surge demand for space (maintaining safe operating procedures).

Table 43.1

Aircraft Type	Current # of Aircraft Parked/Stationed	Maximum Additional Capacity (# of Aircraft)		Total	
		NAVFAC	Surge	NAVFAC	Surge
C-12[1]	3	6	6	9	9
A-4[1]	6	6	6	12	12
H-3[1]	6	12	12	18	18
P-3[1,4]	9	1	1	10	10
E-2[2]	4	2	2	6	6
S-3[2]	4	1	1	5	5
Various aircraft[3]					

[1]Permanently stationed.
[2]CINCLANTFLT permanently tasked drug interdiction mission.
[3]NAVSTA Roos Rds can handle up to approximately 85 total aircraft depending on type and mix. Should exercise or contingency need dictate a various mix of the following type aircraft can be supported: NKC-135 Varient, KC135, EC880, C-141, C-5, F-14, F-18, A-6, F-16, EA-6B, C-130, B-707 Variances, Helos, A-10 and OV-10.
[4]P-3s are not permanently stationed at NAVSTA Roosevelt ROads. There is a permanent presence, however, since NAVSTA Roosevelt Roads is a deployment site for VP squadrons. Squadrons rotate every six months.

Provide the **details of your calculations**, including your assumptions on the minimum separation between aircraft, parking angle, folding of aircraft wings and any obstructions that may limit the placement of aircraft on the parking apron spaces. Indicate if taxiway aprons are used in the projection.

Calculations were based on using carrier spotting methods and USAF parking criteria for USAF aircraft.

44.a. List the **hangars** at the air station. Identify by (P-80) type, year built, dimensions.

Table 44.1

Hangar ID/#	Type I, II or (O)ther	Year Built	Hangar Deck Dimensions	Limiting Height	Current Usage	In SF			
						Adequate	Substandard	Inadequate	Total
200	I	1943	240'X160'	32'-1"	Patron Roosy and Transients	38,400	0	0	38,400
379	II	1959	2 Bays of 160'X80'	40'-4"	AIMD	25,600	0	0	25,600
1625	II	1968	80'X325'	27'-0"	VC-8	26,000	0	0	26,000

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how it is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. Discuss any material conditions of substandard facilities which have resulted in a C3 or C4 designation on your Baserep. N/A; all facilities are adequate.

44.b. For each **hangar** provide **space allocation** information listed in table below. Indicate if OPS/ADMIN space is in a non-contiguous building, Provide subtotal for each hangar.

Table 44.2

Hangar #/ID/Type	SQD/Mod# Assignment[1]	Ops + Admin Spaces SF/ Module	Maint Shops SF/ Module (O Level)	Hangar Deck SF/Module	A/C Line parking spaces [2,3]		
					#/ Module	SF	Elec. Pwr.
200/I	VP-8 and TRANSIENT	12,610[4]	12,185[4]	38,400	9 (P-3)	19,200	N
379[5]/II	AIMD	5,788[4]	15,364[4]	25,600	3 (C12)	12,800	N
1625/II	VC-8	9,877[4]	9,111[4]	26,000	6 (H-3)	10,400	N

Hangar #/ID/Type	SQD/Mod# Assignment[1]	Ops + Admin Spaces SF/ Module	Maint Shops SF/ Module (O Level)	Hangar Deck SF/Module	A/C Line parking spaces [2,3]		
					#/ Module	SF	Elec. Pwr.
1625/II	VC-8	9,877[4]	9,111[4]	26,000	6 (H-4)	10,400	N
TOTAL		38,152	45,771	116,000		65,600	

[1]Provide which SQD/Det was assigned to the specific module at receipt of this Data Call. (i.e., VFA-15, Hgr 1, Mod C)
[2]Dedicated aircraft parking spaces per Module and total square feet (SF) of A/C line parking spaces
[3] Are there A/C line parking spaces supported by permanently installed electric power? (Y/N)
[4] All spaces are housed within the hangar building.
[5] Hangar 379 also houses the Avionics Shop (12,009sf).

45.a. List all **squadrons/detachments** normally homeported at this air station that were deployed and **not assigned** hangar/maintenance spaces at receipt of this data call.

Table 45.1

Squadron/Detachment	#/Type Aircraft	Deployed Location
None		

45.b. List all **squadrons/detachments** normally homeported at this air station that were deployed and **were assigned** hangar/maintenance spaces at receipt of this data call.

Table 45.2

Squadron/Detachment	#/Type Aircraft	Hanger Module Assignment
None		

46.a. Using the types (and mix) of **aircraft** currently stationed at your installation, project the maximum additional number of these aircraft (maintain approximate current mix/ratio of A/C) that could be housed and maintained in **your current hangars.** Provide two estimates:

1. Using NAVFAC P-80 standard measures
2. Using real world planning factors to accommodate a surge demand for space (maintaining safe operating procedures).

Table 46.1

Aircraft Type[6]	Current # of Aircraft Parked/Stationed	Maximum Additional Capacity (# of Aircraft)		Total (Current + Additional)	
		NAVFAC	Surge	NAVFAC	Surge
C-12	3/3[1,2]	0	1	0	4/4
TA-4	6/10[1,3]	0	4	0	10/10
SH-3	5/6[1,3]	0	5	0	10/11
P-3[5]	2/5[1,4]	0	0	0	2/5
E-2[6]	2/0	0	0	0	2/0
S-3[6]	4/0	0	0	0	4/0

Provide the **details of your calculations,** including your assumptions on the minimum separation between aircraft, folding of aircraft wings and any obstructions that may limit the placement of aircraft in the hangars.

[1]First figure represents the number of stationed aircraft. The second figure represents a true more realistic surge situation which includes aircraft that typically park at Roosevelt Roads

during FLEETEX, MISSLEX, COMPTUEX, and TORPEX. Maintaining safe operating distances. Where applicable, the wings are folded. Current use of existing hangers already represents a surge situation.

[2]AIMD Hangar 379

[3]5 in Hangar 1625 and 6 in Hangar 379.

[4]In non surge situations Hangar 200 is used by P-3s. Tail height does not allow the entire aircraft into the hangar.

[5]P-3s not permanently stationed at NAVSTA Roosevelt Roads. There is a permanent presence, however; since NAVSTA Roosevelt Roads is a deployment site for VP squadrons. Squadrons rotate every six months.

[6]CINCLANTFLT permanently tasked drug interdiction mission.

47. Do you have any of the following **special use facilities** at the Air Station?

Table 47.1

CCN	Type of Facility	In SF				# of Units	Year Built
		Adequate	Substandard	Inadequate	Total		
211-01	Aircraft Acoustical Enclosure	None	--	--	--	--	--
211-02	Nose Hangar	None	--	--	--	--	--
211-03	Corrosion Control Hangar	None	--	--	--	--	--
211-75	Parachute/Survival Equipment Shop	6,450	--	--	6,450	1	1966
211-81	Engine Test Cell	None	--	--	--	--	--
211-88	Power Check Pad with Sound Suppression	None	--	--	--	--	--
211-89	Power Check Pad without Sound Suppression	5,000	--	--	5,000	1	1971
211-96	Maintenance, Aircraft Spares Storage	None	--	--	--	--	--
116-10	Airfield Washrack Pavement	16,400	--	--	16,400	1	1981
116-15	Aircraft Rinse Facility	15,390	--	--	15,390	1	1966
214-30	Refueling Vehicle Shop	None	--	--	--	--	--
218-60	Aircraft Ground Support Equipment	6,120	--	3,920[1]	10,040	2	1968 1969
	Other	None	--	--	--	--	--

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how it is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. Discuss any material conditions of substandard facilities which have resulted in a C3 or C4 designation on your Baserep.

[1]Aircraft Ground Support Facility does not meet the current siting criteria and has deteriorated beyond repair. Demolition will be accomplished by locally funded project.

48.a. For the following **aircraft support facility** category codes, provide the amount of adequate substandard, and inadequate facilities.

Table 48.1

CCN	Facility Type	Unit of Measure	Adequate	Substandard	Inadequate	Total	Number of Units
111-20	Landing Pads	SF	47,700 7,857[1]	0	 1,800[1,2]	47,700 9,657[1]	2 2[1]
121-10	Direct Fueling	GM	600	0		600	1
124-30	Fuel Storage	GA	215,772	0		215,772	
421-xx	Ammunition Storage	CF	294,835 2,514,324[1]	49,500[3]	 510,510[4]	344,335 3,024,834[1]	25 103[1]
425-xx	Open Ammunition Storage	SF	7,200	0	0	7,200	1
113-20	Parking Aprons	SF	1,594,278	0	371,043[5,6]	1,965,321	4
113-40	Access Aprons	SF	289,575	0	0	289,575	6
116-56	Combat Aircraft Ordnance Loading Area	SF	N/A	N/A	N/A	N/A	N/A
	Other	SF	0	0	255,401[5,6,7]	255,401	1

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how it is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. Discuss any material conditions of substandard facilities which have resulted in a C3 or C4 designation on your Baserep.

[1]1Facilities are located in Vieques Island
[2]Facility is sited on the edge of a cliff on east and north boundaries with a steep incline on the south. It is in violation of NAVFAC P-80.3, Airfield Safety Clearances Criteria. Strong winds prevail year round and pose a severe safety hazard. Proposed action is to abandon in place.
[3]Material condition of existing substandard facilities have not resulted in a C3 or C4 designation on our BASEREP.
[4]Buildings are 50 years old and deteriorated. Estimated cost to reactivate them is $3,000,000 to reopen and pave the roads. Proposed action is demolition if requirement to reactivate is not identified in the short term.
[5]Portion of the apron is sited within the primary surface of Runway 07/25 and the 7:1 transitional surface.
[6]Portion of the former Runway 29, known as Tent City, is currently used to load ordnance onto combat aircraft.
[7]The Combat Aircraft Ordnance Loading Area (CALA) is currently operated under CNO waiver number Naval Station Roosevelt Roads 1-89 which authorizes deviation from Figure 5-5, page 5-25 of NAVSEA OP-5, Vol. 1 to permit loading/downloading of combat aircraft on closed Runway 29 within 750 feet of the primary surface area for Runway 07/25, and from OPNAVINST 8023.20E requirement to apply inhabited building separation distance of 1250 feet, from combat loading aircraft to runway centerline. MCON P-708, has been submitted for construction of a new waiver free CALA. After the new CALA is in place, the existing apron will be used for parking transient aircraft.

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

In accordance with policy set forth by the Secretary of the Navy, personnel of the Department of the Navy, uniformed and civilian, who provide information for use in the BRAC-95 process are required to provide a signed certification that states "I certify that the information contained herein is accurate and complete to the best of my knowledge and belief."

The signing of this certification constitutes a representation that the certifying official has reviewed the information and either (1) personally vouches for its accuracy and completeness or (2) has possession of, and is relying upon, a certification executed by a competent subordinate.

Each individual in your activity generating information for the BRAC-95 process must certify that information. Enclosure (1) is provided for individual certifications and may be duplicated as necessary. You are directed to maintain those certifications at your activity for audit purposes. For purposes of this certification sheet, the commander of the activity will begin the certification process and each reporting senior in the Chain of Command reviewing the information will also sign this certification sheet. This sheet must remain attached to this package and be forwarded up the Chain of Command. Copies must be retained by each level in the Chain of Command for audit purposes.

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

STEPHEN C. WOOD

NAME (Please type or print)

Stephen C. Wood

Signature

Commanding Officer

Title

29 APR 94

Date

NAVSTA Roosevelt Roads

Activity

NAVSTA ROOSEVELT ROADS UIC N00389
DATA CALL SIX

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

CAPT R. P. CONRAD
NAME (Please type or print) Signature

Acting
Title Commander
Naval Shore Activities
U.S. Atlantic Fleet
Activity

Date 5/27/94

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

H. H. MAUZ, JR.
NAME (Please type or print) Signature

Admiral
Title Commander in Chief
U.S. Atlantic Fleet
Activity

Date 5/27/94

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

R. R. SAREERAM
NAME (Please type or print) Signature

ACTING
Title

17 JUN 1994
Date

NAVSTA ROOSEVELT ROADS UIC N00389
DATA CALL SIX ~~Revised~~ Page 53

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) **Signature**

Title **Date**

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

K. F. DELANEY
NAME (Please type or print)

Kevin F. Delaney
Signature

Rear Admiral
Title Commander
Naval Shore Activities
U.S. Atlantic Fleet
Activity

30 JUN 1994
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

RADM ARCHIE CLEMINS
NAME (Please type or print)

Archie Clemins
Signature

Acting
Title Commander in Chief
U.S. Atlantic Fleet
Activity

7/1/94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

J. B. GREENE, JR.
NAME (Please type or print)
ACTING

JB Greene Jr
Signature

Title

06 JUL 1994
Date

MILITARY VALUE ANALYSIS

NAVSTA ROOSEVELT ROADS UIC N00389
DATA CALL SIX ~~Revised~~ Page 53

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

M. R. Shephard
NAME (Please type or print)

Signature

Head, BRAC 95 Team
Title

30 June 1994
Date

Division

Department

CINCLANTFLT
Activity

NAVSTA ROOSEVELT ROADS UIC N00389
DATA CALL SIX REVISED PG 3

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) — Signature

Title — Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

J. W. CRAINE, JR. — J.W. Craine Jr
NAME (Please type or print) — Signature

Captain — 8/15/94
Title Commander — Date
Naval Shore Activities
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

RADM H. W. GEHMAN, JR. — H.W. Gehman Jr
NAME (Please type or print) — Signature

Acting — [illegible] AUG 1994
Title Commander in Chief — Date
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

J. B. GREENE, JR. — JB Greene Jr
NAME (Please type or print) — Signature

ACTING — 18 AUG 1994
Title — Date

NAVSTA ROOSEVELT ROADS UIC 00389
DATA CALL SIX REVISED PGS 3, 5, 18, 34, 60, 75

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) — Signature

Title — Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) — Signature

Title — Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

W. J. FLANAGAN, JR.
NAME (Please type or print) — Signature

Admiral — 01 NOV 1994
Title Commander in Chief — Date
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

W. A. EARNER
NAME (Please type or print) — Signature

11/21/94
Title — Date

30

ENVIRONMENTAL DATA CALL:
NAVSTA ROOSEVELT ROADS

20 APRIL 1994

BRAC 1995 ENVIRONMENTAL DATA CALL:
All Navy/Marine Corps Host Activities

INDEX

Section

LIST OF ATTACHMENTS

Attachment:

A. Tenant Activity List

B. Supplemental Information for Items 1a and 1c

C. Supplemental Information for Item 3a

D. Supplemental Information for Item 4a

E. Supplemental Information for Item 4d

F. Supplemental Information for Items 5c and 5d

G. Supplemental Information for Item 6a

H. Supplemental Information for Item 8d

I. Supplemental Information for Item 8j

ENVIRONMENTAL DATA CALL

Responses to the following questions provide data that will allow an assessment of the potential environmental impact associated with the closure or realignment of a Navy shore activity. This criterion consists of:

- Endangered/Threatened Species and Biological Habitat
- Wetlands
- Cultural Resources
- Environmental Facilities
- Air Pollution
- Environmental Compliance
- Installation Restoration
- Land/Air/Water Use

As part of the answers to these questions, a *source citation* (e.g., 1993 base loading, 1993 base-wide Endangered Species Survey, 1993 letter from USFWS, 1993 Base Master Plan, 1993 Permit Application, 1993 PA/SI, etc.) must be included. It is probable that, at some point in the future, you will be asked to provide additional information detailing specifics of individual characteristics. In anticipation of this request, supporting documentation (e.g., maps, reports, letters, etc.) regarding answers to these questions should be retained. Information needed to answer these questions is available from the cognizant EFD Planning and Real Estate Divisions, and Environment, Safety, and Health Divisions; and from the activity Public Works Department, and activity Health Monitoring and Safety Offices.

For purposes of the questions associated with land use at your base is *defined* as *land* (acreage owned, withdrawn, leased, and controlled through easements); *air* (space controlled through agreements with the FAA, e.g., MOAs); *and water* (navigation channels and waters along a base shoreline) *under the control of the Navy.*

Provide a list of tenant activities with UICs that are covered in this response.

Attachment A is a list of tenant activities.

1. ENDANGERED/THREATENED SPECIES AND BIOLOGICAL HABITAT

1a. For federal or state listed endangered, threatened, or category 1 plant and/or animal species on your base, complete the following table. Critical sensitive habitats for these species are designated by the U. S. Fish and Wildlife Service (USFWS). A species is present on your base if some part of its life-cycle occurs on Navy controlled property (e.g., nesting, feeding, loafing). Important Habitat refers to that number of acres of habitat that is important to some life cycle stage of the threatened/endangered species that is not formally designated.

SPECIES (plant or animal)	Federal Designation (Threatened/ Endangered)	Commonwealth of Puerto Rico Designation (Threatened/ Endangered)	Critical / Designated Habitat (Acres)	Important Habitat (acres)
Green Sea Turtle	Threatened	Endangered	0	8[1]
Hawksbill Sea Turtle	Endangered	Endangered	0	25[1]
Leatherback Sea Turtle	Endangered	Endangered	0	9[1]
Loggerhead Sea Turtle	Threatened	Threatened	0	0[3]
Olive Ridley Sea Turtle	Endangered	Endangered	0	0[3]
Puerto Rico Boa	Endangered	Endangered	0	1,000[1]
Puerto Rico Slider	Candidate[2]	N/A	0	1,000[1]
Yellow Shouldered Blackbird	Endangered	Endangered	2,295	2,295
Brown Pelican	Endangered	Endangered	0	6[1]
Peregrine Falcon	Endangered	Endangered	0	1,000[1]
West Indian Whistling Duck	Candidate[2]	Threatened	0	1,000[1]
Caribbean Coot	Candidate[2]	Threatened	0	1,000[1]
Ruddy Duck	Candidate[2]	Threatened	0	1,000[1]
White-cheeked Pintail	Candidate[2]	N/A	0	1,000[1]
Least Tern	Threatened	Candidate[2]	0	1,000[1]
Piping Plover	Threatened	N/A	0	1,000[1]
Least Grebe	Threatened	Candidate[2]	0	1,000[1]
White-crowned Pigeon	Candidate[2]	N/A	0	1,000[1]
West Indian Manatee	Endangered	Endangered	0	4,000[1] open sea
Epidendrum bifidum	Candidate[2]	Rare	0	100[1]
Stahlia monosperma	Threatened	N/A	0	200[1]
Tillandsia lineatispica	Candidate[2]	Rare	0	300[1]
Calyptranthes thomasiana	Candidate[2]	Rare	0	300[1]

[1]Acreage estimated based on areas known to be frequented by the species; acreage for several species overlap
[2]Candidate for listing
[3]Species not known to nest on Station, but have been reported to be seen offshore

Source Citation: a. **Fish and Wildlife Management Section, U.S. Naval Station, Roosevelt Roads, 1989**
b. **Land Use Management Plan for Naval Facilities, Vieques, Puerto Rico, 1986**
c. **1993 Annual Report on the Radio Telemetry of Manatees in Puerto Rico**

1b.

Have your base operations or development plans been constrained due to: - USFWS or National Marine Fisheries Service (NMFS)? - State required modifications or constraints? If so, identify below the impact of the constraints including any restrictions on land use.	YES
Are there any requirements resulting from species not residing on base, but which migrate or are present nearby? If so, summarize the impact of such constraints.	NO

(1) The use of Piñeros and Cabeza de Perros islands by the Naval Special Warfare Unit Four (SPECWAR) has been restrained by an Agreement with the U.S. Fish and Wildlife Service (FWS) initiated in 1989. Piñeros island offers a year around training site for SPECWAR. The Agreement indicates permitted land uses and designates off limit areas (mangroves and wetlands, potential sea turtle nesting beaches) as well as underwater demolition areas. The SPECWAR training needs have been fulfilled; however, recently SPECWAR requested the expansion of the demolition and small arms range to other areas not previously considered. The FWS is evaluating the feasibility of the request.

(2) The 1983 Memorandum of Understanding (MOU) between the U.S. Navy and the Commonwealth of Puerto Rico regarding the Island of Vieques contains environmental requirements for the continued use of this island for military purposes. The requirements include the conservation of tropical ecosystems and conservation zones, sea turtle management, sea mammal management, brown pelican management, noise control, historic preservation, managed use of parachute flares and the creation of a Management Advisory Committee. The Navy has complied with these requirements and the military operations have continued.

1c. If the area of the habitat and the associated species have not been identified on base maps provided in Data Call 1, submit this information on an updated version of Data Call 1 map.

Habitat was not specifically identified on Data Call 1 map; however, it was shown as wetlands. See Attachment B for a map of the Yellow shouldered Blackbird's critical habitat.

1d.

Have any efforts been made to relocate any species and/or conduct any mitigation with regards to critical habitats or endangered/threatened species? Explain what has been done and why.	YES

(1) Sea Turtle Conservation Project at Vieques: Since 1989 this project has been conducted at Vieques in coordination with the Puerto Rico Department of Natural and Environmental Resources (DNER). Sea turtle eggs which are found are relocated to a hatchery. The hatchlings are released on the same beach the eggs were obtained. Approximately 8,007 hatchlings were released from 1991 through 1993.

R

(2) West Indian manatee: The Station surrounding waters provide habitat for the endangered West Indian manatee. The Station has obtained funds to conduct radio tracking studies of this endangered species in coordination with the FWS. The information obtained from these studies was used to demarcate boat speed limit zones and to restrict the use of two areas used the most by manatees (Cascajo Bay and Algodones Beach). The information will also be used for the update of the Puerto Rico West Indian Manatee Recovery Plan. In addition, currently the Station is providing assistance to the Caribbean Stranding Network by permitting the use of Cascajo Bay for the release of a captive manatee into the wild.

1e.

Will any state or local laws and/or regulations applying to endangered/threatened species which have been enacted or promulgated but not yet effected, constrain base operations or development plans beyond those already identified? Explain.	**NO**

2. WETLANDS

Note: Jurisdictional wetlands are those areas that meet the wetland definitional criteria detailed in the Corps of Engineers (COE) Wetland Delineation Manual, 1987, Technical Report Y-87-1, U.S. Army Engineer Waterway Experiment Station, Vicksburg, MS or officially adapted state definitions.

2a.

Does your base possess federal jurisdictional wetlands?	**YES**	
Has a wetlands survey in accordance with established standards been conducted for your base?	**YES**	
When was the survey conducted or when will it be conducted? **A survey to prepare the National Wetland Inventory Map of U.S. Naval Station Roosevelt Roads was conducted in January 1993. Currently it is in the draft stage. Final map revision is scheduled for November 1994. The final map will be ready in January 1995.**		
What percent of the base has been surveyed?	**100%**	
What is the total acreage of jurisdictional wetlands present on your base? **Approximately 3,822 acres at Ceiba and 800 at Vieques. Accurate acreage will be determined upon final preparation of the National Wetland Inventory Map of U.S. Naval Station Roosevelt Roads.**	**4,622 ACRES**	R

Source Citations:

(1) Land Use Management Plan for Naval Facilities, Vieques Puerto Rico, 1986.
(2) Fish and Wildlife Management Section, U.S. Naval Roosevelt Roads, Puerto Rico, 1989.

(2) West Indian manatee: The Station surrounding waters provide habitat for the endangered West Indian manatee. The Station has obtained funds to conduct radio tracking studies of this endangered species in coordination with the FWS. The information obtained from these studies was used to demarcate boat speed limit zones and to restrict the use of two areas used the most by manatees (Cascajo Bay and Algodones Beach). The information will also be used for the update of the Puerto Rico West Indian Manatee Recovery Plan. In addition, currently the Station is providing assistance to the Caribbean Stranding Network by permitting the use of Cascajo Bay for the release of a captive manatee into the wild.

1e.

Will any state or local laws and/or regulations applying to endangered/threatened species which have been enacted or promulgated but not yet effected, constrain base operations or development plans beyond those already identified? Explain.	NO

2. WETLANDS

Note: Jurisdictional wetlands are those areas that meet the wetland definitional criteria detailed in the Corps of Engineers (COE) Wetland Delineation Manual, 1987, Technical Report Y-87-1, U.S. Army Engineer Waterway Experiment Station, Vicksburg, MS or officially adapted state definitions.

2a.

Does your base possess federal jurisdictional wetlands?	**YES**
Has a wetlands survey in accordance with established standards been conducted for your base?	**YES**
When was the survey conducted or when will it be conducted? **A survey to prepare the National Wetland Inventory Map of U.S. Naval Station Roosevelt Roads was conducted in January 1993. Currently it is in the draft stage. Final map revision is scheduled for November 1994. The final map will be ready in January 1995.**	
What percent of the base has been surveyed?	**100%**
What is the total acreage of jurisdictional wetlands present on your base? **Approximately 3,600 acres at Ceiba and 800 at Vieques. Accurate acreage will be determined upon final preparation of the National Wetland Inventory Map of U.S. Naval Station Roosevelt Roads.**	4,622 ACRES

Source Citations:

(1) **Land Use Management Plan for Naval Facilities, Vieques Puerto Rico, 1986.**
(2) **Fish and Wildlife Management Section, U.S. Naval Roosevelt Roads, Puerto Rico, 1989.**

2b. If the area of the wetlands has not been identified on base maps provided in Data Call 1, submit this on an updated version of Data Call 1 map.

The maps will be updated upon completion of the National Wetland Inventory Map of U.S. Naval Station Roosevelt Roads in January 1995. However, the map provided in Data Call 1 indicated the location of wetlands based on the most recent Station Master Plan.

2c. Has the EPA, COE or a state wetland regulatory agency required you to modify or constrain base operations or development plans in any way in order to accommodate a jurisdictional wetland? If YES, summarize the results of such modifications or constraints.

No. All planned development is sited outside of jurisdictional wetlands.

3. CULTURAL RESOURCES

3a.

Has a survey been conducted to determine historic sites, structures, districts or archaeological resources which are listed, or determined eligible for listing, on the National Register of Historic Places? If so, list the sites below.	**YES**

See Attachment C.

3b.

Has the President's Advisory Council on Historic Preservation or the cognizant State Historic Preservation Officer required you to mitigate or constrain base operations or development plans in any way in order to accommodate a National Register cultural resource? If YES, list the results of such modifications or constraints below.	**YES**

A data recovery plan was implemented in 1989 prior to construction of the new Navy Lodge. Artifacts were recovered and turned over to the University of Tarabo, Caguas, Puerto Rico. The State Historic Preservation Officer endorsed the project.

3c.

Are there any on-base areas identified as sacred areas or burial sites by Native Americans or others? List below.	**NO**

4. ENVIRONMENTAL FACILITIES

Notes: If your facility is permitted for less than maximum capacity, state the maximum capacity and explain below the associated table why it is not permitted for maximum capacity. Under "Permit Status" state when the permit expires, and whether the facility is operating under a waiver. For permit violations, limit the list to the last 5 years.

The Station facilites discussed in this section include the following:

Main Complex, Naval Station, Roosevelt Roads, Ceiba, PR
Pico del Este, Luquillo, PR
Eastern Maneuver Area (EMA), Atlantic Fleet Weapons Training Facility (AFWTF), Vieques, PR (which includes Camp Garcia)
Atlantic Fleet Weapons Training Facility (AFWTF), St. Thomas, U.S. Virgin Islands
Atlantic Fleet Weapons Training Facility (AFWTF), St. Croix, U.S. Virgin Islands
U.S. Naval Reservation, Stop 7½, San Juan, PR

4a.

Does your base have an operating landfill?					YES
ID/Location of Landfill	Permitted Capacity (CYD)		Maximum Capacity (CYD)[1]	Contents[2]	Permit Status
	TOTAL	Remaining			
Naval Station Sanitary Landfill	264K	161K	425K[3]	Sanitary debris, building demolition, tree trimming, asbestos	Under EQB review; temporary permit expires on 10 Jun 94

See Attachment D for capacity calculations.

[1] **Draft study for Sanitary Landfill Closure, Malcolm Pirnie, Jul 93. See item 4o.**
[2] **Contents (e.g. building demolition, asbestos, sanitary debris, etc)**
[3] **We are operating a landfill over an existing landfill with approval from the Commonwealth of Puerto Rico, Environmental Quality Board (EQB)**

Are there any current or programmed projects to correct deficiencies or improve the facility.

Yes. A landfill closure plan study is being developed to comply with appropriate closure requirements. There is a plan to construct a new landfill on the Station with a solid waste transfer facility if a controlled regional landfill is not available off-Station. An Economic Feasibility Study and Risk Analysis, as well as an Environmental Impact Statement, are in progress. These studies will evaluate the feasibility of using a controlled, conforming landfill off-Station to dispose of non-hazardous solid waste. The studies will evaluate the regional landfills as alternatives for the Stations's solid waste disposal. It is expected that these landfills will be in full compliance with the solid waste regulations in five to six years and that the Naval Station will segregate its waste at an on-Station transfer facility prior to sending off-Station.

4b. If there are any non-Navy users of the landfill, describe the user and conditions/agreements.

A list of tenant activities is provided in Attachment A. These activities are allowed to use the Station landfill based on the conditions contained in Interagency Service Support Agreements.

The Base Operating Services (BOS) Contractor collects solid waste from all non-Navy users and disposes of it at the landfill. Residential wastes, construction debris, commercial and industrial wastes (non-hazardous), dead animals, etc. are disposed in the landfill. The Station provides guidance on solid waste disposal to landfill users.

A landfill disposal permit is required for all departments and tenant activities before disposing of solid waste at the landfill. Trucks containing waste and the landfill are inspected to ensure hazardous and recyclable wastes are not disposed in the landfill. Users are informed about recycling programs, segregation/accumulation sites for pallets and metals, and resale contracts through the Defense Reutilization and Marketing Office (DRMO).

4c.

Does your base have any disposal, recycling, or incineration facilities for solid waste?					YES
Facility/Type of Operation	**Permitted Capacity**	**Ave Daily Throughput**	**Maximum Capacity**	**Permit Status**	**Comments**
Incinerator Bldg. 1790	**180 lb/day**	**108 lb**	**200 lb/hr**	**Expires 7 Sep 96**	**Biomedical wastes incineration**
Incinerator Bldg. 1817	**50 lb/day**	**1.7 lb**	**80 lb/hr**	**Expires 22 Sep 95**	**Magnetic ribbons and paper incineration**

List any permit violations and projects to correct deficiencies or improve the facility.

N/A. There have been no permit violations.

Revised pg

4d. R

Does your base own/operate a Domestic Wastewater Treatment Plant (WWTP) ?					YES
ID/Location of WWTP	Permitted Capacity	Ave Daily Discharge Rate	Maximum Capacity	Permit Status	Level of Treatment/Year Built
Forrestal	0.94 MGD	0.4 MGD	0.94	Evidentiary Hearing Request[1]	secondary 1970[2]
Capehart	0.46 MGD	0.388 MGD R	0.46	Evidentiary Hearing Request[1]	secondary 1970[2]
Bundy	0.60 MGD	0.3 MGD	0.60	Evidentiary Hearing Request[1]	secondary 1969[2]

1 **The Naval Station received a new NPDES permit issued by the Environmental Protection Agency (EPA) in February 1993. The Naval Station requested a evidentiary hearings with Commonwealth of Puerto Rico Environmental Quality Board (EQB) and EPA in February 1993. These requests are based on factual and legal concerns. The Naval Station is operating under an administratively extended NPDES permit.**

2 **Renovations to add tertiary treatment will be completed 4th quarter of FY94.**

List permit violations and discuss any projects to correct deficiencies.

The Station has been operating under a Federal Facilities Compliance Agreement (FFCA) with the U.S. Environmental Protection Agency (EPA) since 1990. This agreement allows the Station to meet interim limits that are less stringent than some of its NPDES permit requirements. Attachment E provides a list of violations of the permit conditions from May 1990 to April 1994. The list of projects to correct deficiencies is provided as part of Attachment G.

4e. If you do not have a domestic WWTP, describe the average discharge rate of your base to the local sanitary sewer authority, discharge limits set by the sanitary sewer authority (flow and pollutants) and whether the base is in compliance with their permit. Discuss recurring discharge violations.

Stop 7½. Wastewater is discharged into the Puerto Rico Aqueduct and Sewer Authority's (PRASA's) collection and treatment system. There is no record of any violations.

4d.

Does your base own/operate a Domestic Wastewater Treatment Plant (WWTP) ?					YES
ID/Location of WWTP	Permitted Capacity	Ave Daily Discharge Rate	Maximum Capacity	Permit Status	Level of Treatment/Year Built
Forrestal	0.94 MGD	0.4 MGD	0.94	Evidentiary Hearing Request[1]	secondary 1970[2]
Capehart	0.46 MGD	0.5 MGD	0.46	Evidentiary Hearing Request[1]	secondary 1970[2]
Bundy	0.60 MGD	0.3 MGD	0.60	Evidentiary Hearing Request[1]	secondary 1969[2]

1 **The Naval Station received a new NPDES permit issued by the Environmental Protection Agency (EPA) in February 1993. The Naval Station requested a evidentiary hearings with Commonwealth of Puerto Rico Environmental Quality Board (EQB) and EPA in February 1993. These requests are based on factual and legal concerns. The Naval Station is operating under an administratively extended NPDES permit.**

2 **Renovations to add tertiary treatment will be completed 4th quarter of FY94.**

List permit violations and discuss any projects to correct deficiencies.

The Station has been operating under a Federal Facilities Compliance Agreement (FFCA) with the U.S. Environmental Protection Agency (EPA) since 1990. This agreement allows the Station to meet interim limits that are less stringent than some of its NPDES permit requirements. Attachment E provides a list of violations of the permit conditions from May 1990 to April 1994. The list of projects to correct deficiencies is provided as part of Attachment G.

4e. If you do not have a domestic WWTP, describe the average discharge rate of your base to the local sanitary sewer authority, discharge limits set by the sanitary sewer authority (flow and pollutants) and whether the base is in compliance with their permit. Discuss recurring discharge violations.
Stop 7½. Wastewater is discharged into the Puerto Rico Aqueduct and Sewer Authority's (PRASA's) collection and treatment system. There is no record of any violations.

4f.

Does your base operate an Industrial Waste Treatment Plant (IWTP)?					NO
ID/Location of IWTP	Type of Treatment	Permitted Capacity	Ave Daily Discharge Rate	Maximum Capacity	Permit Status
N/A					

List any permit violations and projects to correct deficiencies or improve the facility.

N/A. None of the U.S. Naval Station, Roosevelt Roads, facilities operates an IWTP.

4g. Are there other waste treatment flows not accounted for in the previous tables? Estimate capacity and describe the system.

(1) Vieques (NASD) has a 10,000 gallon per day activated sludge package treatment facility. System consists of contact stabilization sedimentation and chlorination tanks. This treatment facility does not have a discharge effluent.

(2) Also, there is a 5,000 gallon per day evapotranspiration lagoon at Camp Garcia, Vieques Island. This treatment facility does not have a discharge effluent.

(3) There are eight holding tanks (12,000 gallons total) at Naval Ammunition Support Depot and Camp Garcia on Vieques Island. The tanks are cleaned on a monthly basis.

(4) There are two holding tanks (3,000 gallons total) at Pico del Este. The tanks are cleaned on a monthly basis.

4h.

Does your base operate drinking Water Treatment Plants (WTP)?					YES
ID/Location of WTP	Operating (MGD)		Method of Treatment	Maximum Capacity (MGD)	Permit Status
	Permitted Capacity	Daily Rate			
PWS NO. 619016	4	1.8	Flocculation Sedimentation	4	Approved 1992

List permit violations and projects/actions to correct deficiencies or improve the facility.

The Naval Station's water has experienced periods of high concentrations of trihalomethanes (THM's). The Naval Station is performing a comprehensive investigation concerning THMs. Operating practices have been revised and physical upgrades to the water treatment plant are being formulated.

4i. If you do not operate a WTP, what is the source of the base potable water supply. State terms and limits on capacity in the agreement/contract, if applicable.

Vieques: **(1) Camp Garcia utilizes ground water at a rate of 10,000 gallons/day. This rate is the average for a typical year; however, actual usage is cyclic based on the magnitude and frequency of training exercises. Collection and distribution system is deteriorated.**
(2) NASD utilizes water supplied by the Puerto Rico Aqueduct and Sewer Authority (PRASA); usage rate is 11,900 gallons per day.

Pico del Este: Rain water is stored for use in bathrooms and kitchen. Bottled water from a local supply is used for drinking. Water usage rate 500 gallons per day.
Stop 7½: Water is provided by PRASA; usage rate is 1,850 gallons per day.

4j.

Does the presence of contaminants or lack of supply of water constrain base operations. Explain.	NO

4k.

Other than those described above does your base hold any NPDES or stormwater permits? If YES, describe permit conditions.	YES
If NO, why not and provide explanation of plan to achieve permitted status.	

The Station is included under a Navy group application for stormwater. The Station is preparing a Pollution Prevention Control Plan to comply with stormwater NPDES requirements. Additionally, there is an NPDES permit that requires sampling of the water off Vieques at the Inner Range Training Facility when ordnance falls in offshore water.

4l.

Does your base have bilge water discharge problem?	YES
Do you have a bilge water treatment facility?	NO

Explain: **Current Station LOGREC responses remind ships to purge their bilges 50 miles out prior to entering the Naval Station's port. The Station policy is to collect bilge water only from submarines due to their inability to store oily waste/waste oil (OW/WO). The Station is preparing a management plan for OW/WO which is 90% complete. Recommendations to construct OW/WO treatment facilities are under consideration.**

4m.

Will any state or local laws and/or regulations applying to Environmental Facilities, which have been enacted or promulgated but not yet effected, constrain base operations or development plans beyond those already identified? Explain.	NO

Title 3, Clean Air Act, Hazardous Air Pollutants will require monitoring of hazardous air pollutants. Monitoring of hazardous air pollutants requires leak detection and collection of VOC which will increase the operating cost of sewage treatment plants and fuel facilities, but will not constrain base operations or development plans.

4n. What expansion capacity is possible with these Environmental Facilities? Will any expansions/upgrades as a result of BRACON or projects programmed through the Presidents budget through FY1997 result in additional capacity? Explain.

Comparing design flow to actual average flows, the Station has 50% expansion capacity on its wastewater treatment system. This capacity is jeopardized during heavy rains in which the flow limit is exceeded at the wastewater treatment facilities. There is a FY94 special project to eliminate excess inflow/infiltration (I/I) from the systems that is expected to be complete by 1997. There are no BRACON projects scheduled at the Station.

4o. Do capacity limitations on any of the facilities discussed in question 4 pose a present or future limitation on base operations? Explain.

- **Yes. Sanitary landfill. Currently the Station landfill is reaching its expected life. The Station is working with the Commonwealth of Puerto Rico, Environmental Quality Board (EQB) to obtain a permit and continue operating the facility using the area method until a new landfill is built.**

- **When excess I/I is removed from the sanitary sewer collection system, the Station will have the capacity to accept more flow at the WWTPs, especially in the Forrestal system.**

- **MCON P-504 (FY95) cost $11.5M will provide new sanitary landfill at NAVSTA Roosevelt Roads.**

5. AIR POLLUTION

5a.

What is the name of the Air Quality Control Areas (AQCAs) in which the base is located? **Ceiba, Puerto Rico**
Is the installation or any of its OLFs or non-contiguous base properties located in different AQCAs? **Yes.** List site, location and name of AQCA.

Naval Ammunition Support Depot (NASD), Vieques Island, Vieques, PR
Eastern Maneuver Area (EMA), Atlantic Fleet Weapons Training Facility (AFWTF), Vieques, PR
Atlantic Fleet Weapons Training Facility (AFWTF), St. Thomas, U.S. Virgin Islands
Atlantic Fleet Weapons Training Facility (AFWTF), St. Croix, U.S. Virgin Islands
U.S. Naval Reservation, Stop 7½, San Juan, PR

5b. For each parcel in a separate AQCA fill in the following table. Identify with and "X" whether the status of each regulated pollutant is: attainment/non-attainment/maintenance. For those areas which are in non-attainment, state whether they are: Marginal, Moderate, Serious, Severe, or Extreme. State target attainment year.

Site: U.S. Naval Station, Roosevelt Roads[3] AQCA: Ceiba, PR

Pollutant	Attainment	Non-Attainment	Maintenance	Target Attainment Year[1]	Comments[2]
CO	X				
Ozone	X				
PM-10	X				
SO_2	X				
NO_2	X				
Pb	X				

[1] Based on national standard for Non-Attainment areas or SIP for Maintenance areas.
[2] Indicate if attainment is dependent upon BRACON, MILCON or Special Projects. Also indicate if the project is currently programmed within the Presidents FY1997 budget.
[3] Pico del Este is included in same AQCA as the Naval Station

Site: NASD/EMA AQCA: Vieques, PR

Pollutant	Attainment	Non-Attainment	Maintenance	Target Attainment Year[1]	Comments[2]
CO	X				
Ozone	X				
PM-10	X				
SO_2	X				
NO_2	X				
Pb	X				

[1] Based on national standard for Non-Attainment areas or SIP for Maintenance areas.

[2] Indicate if attainment is dependent upon BRACON, MILCON or Special Projects. Also indicate if the project is currently programmed within the Presidents FY1997 budget.

Site: U.S. Naval Reservation, Stop 7½ AQCA: San Juan, PR

Pollutant	Attainment	Non-Attainment	Maintenance	Target Attainment Year[1]	Comments[2]
CO	X				
Ozone	X				
PM-10	X				
SO_2	X				
NO_2	X				
Pb	X				

[1] Based on national standard for Non-Attainment areas or SIP for Maintenance areas.

[2] Indicate if attainment is dependent upon BRACON, MILCON or Special Projects. Also indicate if the project is currently programmed within the Presidents FY1997 budget.

Site: AFWTF/ St. Croix and St. Thomas, U.S. Virgin Islands AQCA: U.S. Virgin Islands

Pollutant	Attainment	Non-Attainment	Maintenance	Target Attainment Year[1]	Comments[2]
CO	X				
Ozone	X				
PM-10	X				
SO_2	X				
NO_2	X				
Pb	X				

[1] Based on national standard for Non-Attainment areas or SIP for Maintenance areas.

[2] Indicate if attainment is dependent upon BRACON, MILCON or Special Projects. Also indicate if the project is currently programmed within the Presidents FY1997 budget.

5c. For your base, identify the baseline level of emissions, established in accordance with the Clean Air Act. Baseline information is assumed to be 1990 data or other year as specified. Determine the total level of emissions (tons/yr) for CO, NOx, VOC, PM10 for the general sources listed. For all data provide a list of the sources and show your calculations. Use known emissions data, or emissions derived from use of state methodologies, or identify other sources used. "Other Mobile" sources include such items as ground support equipment.

	Emission Sources (Tons/Year) CY 92				
Pollutant	Permitted Stationary	Personal Automobiles	Aircraft Emissions	Other Mobile	Total
CO	**3.27**	**193**	**968**	**128**	**1292.27**
NOx	**13.19**	**24**	**268**	**176**	**481.19**
VOC	**14.91**	**23**	**683**	**32**	**752.91**
PM10[1]	**20.27**	**-**	**118**	**14**	**152.27**

[1]PM10- includes all PM

Source Document: **See Attachment F for emission summary and calculations. Data obtained from air permits for airfield operations, Public Works Transportation, and NMCB Transportation Offices.**

5d. For your base, determine the total FY1993 level of emissions (tons/yr) for CO, NOx, VOC, PM10 for the general sources listed. For all data provide a list of the sources and show your calculations. Use known emissions data, or emissions derived from use of state methodologies, or identify other sources used. "Other Mobile" sources include such items as ground support equipment.

	Emissions Sources (Tons/Year) CY 93				
Pollutant	Permitted	Personal	Aircraft	Other	Total
CO	**5.53**	**193**	**888**	**128**	**1,214.53**
NOx	**23.60**	**24**	**250**	**176**	**473.60**
VOC	**14.91**	**23**	**636**	**32**	**705.91**
PM10[1]	**20.02**	**-**	**110**	**14**	**144.02**

[1]**Includes all PM**

Source Document: **See Attachment F for emission summary and calculations. Data obtained from air permits for airfield operations, Public Works Transportation, and NMCB Transportation.**

5e. Provide estimated increases/decreases in air emissions (Tons/Year of CO, NOx, VOC, PM10) expected within the next six years (1995-2001). Either from previous BRAC realignments and/or previously planned downsizing shown in the Presidents FY1997 budget. Explain.

Station is expected to continue operating at the same level as today; therefore, air emissions are expected to remain constant. There is no impact from previous BRAC realignment scheduled.

5f. Are there any critical air quality regions (i.e. non-attainment areas, national parks, etc.) within 100 miles of the base?

National Park: **El Yunque National Rain Forest; approximately 15 miles from the Naval Station.**

Non-attainment area: **Guaynabo (PM-10) area; approximately 50 miles from the Naval Station. Cataño (SO_2) area; approximately 50 miles from the Naval Station.**

Note: The island of Puerto Rico is approximately 110 miles long by 35 miles wide.

5g. Have any base operations/mission/functions (i.e.: training, R&D, ship movement, aircraft movement, military operations, support functions, vehicle trips per day, etc.) been restricted or delayed due to air quality considerations. Explain the reason for the restriction and the "fix" implemented or planned to correct.

No.

5h. Does your base have Emission Reduction Credits (ERCs) or is it subject to any emission offset requirements? If yes, provide details of the sources affected and conditions of the ERCs and offsets. Is there any potential for getting ERCs? **No.**

6. ENVIRONMENTAL COMPLIANCE

6a.
Identify compliance costs, currently known or estimated that are required for permits or other actions required to bring existing practices into compliance with appropriate regulations. Do not include Installation Restoration costs that are covered in Section 7 or recurring costs included in question 6c. For the last two columns provide the combined total for those two FY's.

Program	Survey Completed?	Costs in $K to correct deficiencies					
		FY94	FY95	FY96	FY97	FY98-99	FY00-01
Air	Yes	295.0	18.0	58.0	102.0	200.0	200.0
Hazardous Waste	Yes	20.0	130.0	25.0	35.0	25.0	30.0
Safe Drinking Water Act	Yes	0.00	0.00	700.0	200.00	150.00	100.0
PCBs	Yes	60.0	40.0	50.0	50.0	90.0	40.0
Other (non-PCB) Toxic	Yes	200.0	200.0	530.0	470.0	570.0	300.0
Lead Based Paint	No	0.00	25.00	80.00	80.00	80.00	40.00
Radon	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Clean Water Act (SPCC)	Yes	500.0	2,500.	100.0	50.0	100.0	100.0
Clean Water Act	Yes	8,757.8	1,550.	450.0	100.0	100.0	100.0
Solid Waste	Yes	450.0	60.0	12,200.	30.0	20,000.	50.0
Oil Pollution Act (OHS)	N/A	40.0	60.0	50.0	50.0	80.0	80.0
Oil Pollution Act	Yes	0	1,000.	100.0	100.0	100.0	100.0
USTs	Yes	300.0	250.0	1,421.0	1,130.0	381.0	1,307.0
Other	N/A	0.0	0.0	0.0	0.0	0.0	0.0
Total		10,622.	5,833.	15,764	2,397	21,876	2,447

Provide a separate list of compliance projects in progress or required, with associated cost and estimated start/completion date.

See Attachment G

6b. Does your base have structures containing asbestos? YES What % of your base has been surveyed for asbestos? 30% Are additional surveys planned? [1] What is the estimated cost to remediate asbestos ($K) 17,600. Are asbestos survey costs based on encapsulation, removal or a combination of both? [2,3] R

[1]Additional surveys are performed as required during demolition and renovation of facilities.
[2]Costs based on removal of all friable asbestos identified in survey.
[3]Claimant policy is to consider funding only remediation of asbestos that is friable, damaged and accessible and to remediate by management in place rather than by removal.

6. ENVIRONMENTAL COMPLIANCE

6a.

Identify compliance costs, currently known or estimated that are required for permits or other actions required to bring existing practices into compliance with appropriate regulations. Do not include Installation Restoration costs that are covered in Section 7 or recurring costs included in question 6c. For the last two columns provide the combined total for those two FY's.

Program	Survey Completed?	Costs in $K to correct deficiencies					
		FY94	FY95	FY96	FY97	FY98-99	FY00-01
Air	Yes	295.0	18.0	58.0	102.0	200.0	200.0
Hazardous Waste	Yes	20.0	130.0	25.0	35.0	25.0	30.0
Safe Drinking Water Act	Yes	0.00	0.00	700.0	200.00	150.00	100.0
PCBs	Yes	60.0	40.0	50.0	50.0	90.0	40.0
Other (non-PCB) Toxic	Yes	200.0	200.0	530.0	470.0	570.0	300.0
Lead Based Paint	No	0.00	25.00	80.00	80.00	80.00	40.00
Radon	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Clean Water Act (SPCC)	Yes	500.0	2,500.	100.0	50.0	100.0	100.0
Clean Water Act	Yes	8,757.8	1,550.	450.0	100.0	100.0	100.0
Solid Waste	Yes	450.0	60.0	12,200.	30.0	20,000.	50.0
Oil Pollution Act (OHS)	N/A	40.0	60.0	50.0	50.0	80.0	80.0
Oil Pollution Act	Yes	0	1,000.	100.0	100.0	100.0	100.0
USTs	Yes	300.0	250.0	1,421.0	1,130.0	381.0	1,307.0
Other	N/A	0.0	0.0	0.0	0.0	0.0	0.0
Total		10,622.	5,833.	15,764	2,397	21,876	2,447

Provide a separate list of compliance projects in progress or required, with associated cost and estimated start/completion date.

See Attachment G

6b. Does your base have structures containing asbestos? YES What % of your base has been surveyed for asbestos? 30% Are additional surveys planned? [1] What is the estimated cost to remediate asbestos ($K) 20,000. Are asbestos survey costs based on encapsulation, removal or a combination of both? [2,3]

[1]Additional surveys are performed as required during demolition and renovation of facilities.
[2]Costs based on removal of all friable asbestos identified in survey.
[3]Claimant policy is to consider funding only remediation of asbestos that is friable, damaged and accessible and to remediate by management in place rather than by removal.

6c. Provide detailed cost of recurring operational (environmental) compliance costs, with funding source.

Funding Source	FY92	FY93	FY94	FY95	FY96	FY97	FY98-99	FY00-01
O&MN	1936K	3830K	2070K	2036K	2043K	2043K	4086K	4086K
HA	250K	250K	250K	250K	250K	250K	250K	250K
PA	400K	470K	2653K	820K	675K	500K	800K	200K
OTHER O&MN (SPECIFY)								
OTHER: EPCRA			170K	180K	190K	200K	450K	500K
TOTAL	2586K	4550K	5143K	3286K	3158K	2993K	5586K	5036K

6d. Are there any compliance issues/requirements that have impacted operations and/or development plans at your base?

NO

7. INSTALLATION RESTORATION

7a.

Does your base have any sites that are contaminated with hazardous substances or petroleum products?	**YES**
Is your base an NPL site or proposed NPL site?	**NO**

7b. Provide the following information about your Installation Restoration (IR) program. Project list may be provided in separate table format. Note: List only projects eligible for funding under the Defense Environmental Restoration Account (DERA). Do not include UST compliance projects properly listed in section VI.

Site # or name	Type site [1]	Groundwater Contaminated?	Extends off base?	Drinking Water Source?	Cost to Complete ($M)/Est. Compl. Date	Status[2]/Comments
1	CERCLA	NO	NO	NO	$4.98 FY97	RI
2	CERCLA	NO	NO	NO	$2.47 FY97	RI
3	CERCLA	NO	NO	NO		No further action
4	CERCLA	NO	NO	NO		No further action
5	RCRA	YES	NO	NO	$8.4 FY97	RI
6	RCRA	YES	NO	NO	$1.2 FY97	RI
7	RCRA	YES	NO	NO	$10.1 FY00	RI
8	RCRA	NO	NO	NO		No further action
9	CERCLA	NO	NO	NO		No further action
10	RCRA	UNKNOWN	NO	NO	$1.4 FY00	RI
11	RCRA	NO	NO	NO	$2.4 FY00	RI
12	UST/RCRA[3]	YES	NO	NO	$2.3 FY00	RD & INTERIM RA
13	UST/RCRA[3]	YES	NO	NO	$4.8 FY00	RI
14	CERCLA	NO	NO	NO	FY96	RI
15	RCRA	NO	NO	NO	$6.9 FY00	RI
16	RCRA	UNKNOWN	NO	NO	$2.6 FY00	RI
17	RCRA	UNKNOWN	NO	NO	$6.0 FY00	RI
18	RCRA	UNKNOWN	NO	NO	FY96	RI
19	CERCLA	NO	NO	NO		No further action
20	CERCLA	NO	NO	NO		No further action
21	CERCLA	NO	NO	NO		Complete

[1] Type site: CERCLA, RCRA corrective action (CA), UST or other (explain)
[2] Status = PA, SI, RI, RD, RA, long term monitoring, etc.
[3] These projects are not included in Section 6a.

7c. Have any contamination sites been identified for which there is no recognized/accepted remediation process available? List.

No contamination sites have been identified for which there is not recognized/accepted remediation process available.

7d.

Is there a groundwater treatment system in place?	**NO**
Is there a groundwater treatment system planned?	**NO**

State scope and expected length of pump and treat operation.

7e.

Has a RCRA Facilities Assessment been performed for your base?	**YES**

7f. Does your base operate any conforming storage facilities for handling **hazardous materials?** If YES, describe facility, capacity, restrictions, and permit conditions.

No.

7g. Does your base operate any conforming storage facilities for handling **hazardous waste?** If YES, describe facility, capacity, restrictions, and permit conditions.

Yes. The Station conforming storage consists of seven HW storage facilities, operated by the Defense Reutilization and Marketing Office (DRMO), for storage of corrosive, toxic, oxidizing and ignitable wastes. Maximum capacity is 24,200 gallons of hazardous waste. All hazardous waste must be disposed within one year of accumulation time.

Permit Conditions: The permit requires the Station to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. The Station is authorized to store only the hazardous wastes identified in the Part B Permit and which are generated at our facilities, on or off-site.

The Station must also comply with notification requirements of 40 CFR 264.12(b), general waste analysis requirements; security provisions; general inspection and personnel training requirements; general requirements for ignitable, reactive or non-compatible wastes; preparedness, prevention and contingency planning; manifesting, record keeping and reporting; and preparing closure and post closure plans.

7h. Is your base responsible for any non-appropriated fund facilities (exchange, gas station) that require cleanup? If so, describe facility/location and cleanup required/status.

NAVSTA Roosevelt Roads is responsible for NAF, but no clean up is required at this time.

7i.

Do the results of any radiological surveys conducted indicate limitations on future land use? Explain below.	NO

No survey has been conducted.

7j. Have any base operations or development plans been restricted due to Installation Restoration considerations?

There has been minimal impact to base operations and development plans due to IR sites. Sanitary landfill operations work around existing IR site 7 which is located in the existing sanitary landfill. There has been minimal impact to development plans in other locations on the station. Thus far, there have been alternative sites available for all planned development.

7k. List any other hazardous waste treatment or disposal facilities not included in question 7b. above. Include capacity, restrictions and permit conditions.

RCRA Part B Hazardous Waste Permit Application for open burning/open detonation of waste ammunition. This facility is located at the Atlantic Fleet Weapons Training Facility Inner Range at Vieques. The capacity is 10,000 lbs per year. Burning of ammunition must be conducted on a burning tray device with a secondary containment pan. The date of the permit application is 28 October 1988.

8. LAND / AIR / WATER USE

8a. List the acreage of each real estate component controlled or managed by your base (e.g., Main Base - 1,200 acres, Outlying Field - 200 acres, Remote Range - 1,000 acres, remote antenna site - 5 acres, Off-Base Housing Area - 25 acres).

Parcel Description	Acres	Location
Main Complex, Naval Station, Roosevelt Roads	8,421	Ceiba, PR
Eastern Maneuver Area	14,038	Vieques, PR
Naval Ammunition Support Depot	7,405	Vieques, PR
Pico del Este	76	Luquillo, PR
3D Underwater Tracking Range	12	St. Croix, USVI
St. George Hill	9	St. Croix, USVI
Brooks Hill	2	St. Croix, USVI
Crown Mountain	7	St. Thomas, USVI
Flamenco Point	87	Culebra, PR
U.S. Naval Reservation (Stop 7½)	8	San Juan, PR

8b. Provide the acreage of the land use categories listed in the table below:

MAIN BASE COMPLEX, U. S. NAVAL STATION, ROOSEVELT ROADS, CEIBA, PR

LAND USE CATEGORY		ACRES	
Total Developed: (administration, operational, housing, recreational, training, etc.)			2,931
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands:	3,822
		All Others:	0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL			612
Total Undeveloped land considered to be without development constraints			1,919
Total Off-base lands held for easements/lease for specific purposes			0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD		390
	HERF		0
	HERP		0
	HERO		0
	AICUZ		117
	Airfield Safety Criteria		183
	Other		47[1]

[1]Topographic constraints.

VIEQUES, EAST

LAND USE CATEGORY		ACRES
Total Developed: (administration, operational, housing, recreational, training, etc.)		13,738
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands: 484
		All Others: 0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL		270
Total Undeveloped land considered to be without development constraints		30
Total Off-base lands held for easements/lease for specific purposes		0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD	NONE
	HERF	0
	HERP	0
	HERO	0
	AICUZ	NONE
	Airfield Safety Criteria	NONE
	Other	270[1]

Live ranges.

VIEQUES, WEST

LAND USE CATEGORY		ACRES	
Total Developed: (administration, operational, housing, recreational, training, etc.)			7,355
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands:	316
		All Others:	0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL			37
Total Undeveloped land considered to be without development constraints			13
Total Off-base lands held for easements/lease for specific purposes			0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD		37
	HERF		0
	HERP		0
	HERO		0
	AICUZ		NONE
	Airfield Safety Criteria		NONE
	Other		NONE

PICO DEL ESTE, LUQUILLO, PR

LAND USE CATEGORY		ACRES	
Total Developed: (administration, operational, housing, recreational, training, etc.)			76
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands:	0
		All Others:	0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL			0
Total Undeveloped land considered to be without development constraints			0
Total Off-base lands held for easements/lease for specific purposes			0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD		NONE
	HERF		0
	HERP		0
	HERO		0
	AICUZ		NONE
	Airfield Safety Criteria		NONE
	Other		NONE

ST. CROIX, U.S. VIRGIN ISLANDS

LAND USE CATEGORY		ACRES	
Total Developed: (administration, operational, housing, recreational, training, etc.)			23
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands:	0
		All Others:	0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL			0
Total Undeveloped land considered to be without development constraints			0
Total Off-base lands held for easements/lease for specific purposes			0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD		NONE
	HERF		0
	HERP		0
	HERO		0
	AICUZ		NONE
	Airfield Safety Criteria		NONE
	Other		NONE

ST. THOMAS, U.S. VIRGIN ISLANDS

LAND USE CATEGORY		ACRES	
Total Developed: (administration, operational, housing, recreational, training, etc.)			7
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands:	0
		All Others:	0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL			0
Total Undeveloped land considered to be without development constraints			0
Total Off-base lands held for easements/lease for specific purposes			0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD		NONE
	HERF		0
	HERP		0
	HERO		0
	AICUZ		NONE
	Airfield Safety Criteria		NONE
	Other		NONE

CULEBRA, PR

LAND USE CATEGORY		ACRES	
Total Developed: (administration, operational, housing, recreational, training, etc.)			14
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands:	0
		All Others:	0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL			73
Total Undeveloped land considered to be without development constraints			0
Total Off-base lands held for easements/lease for specific purposes			0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD		NONE
	HERF		0
	HERP		0
	HERO		0
	AICUZ		0
	Airfield Safety Criteria		0
	Other		73[1]

[1]Restriction is due to the possible presence of unexploded ordnance. Approximately 90% of the area is covered with dense vegetation. Approximately 40% is rough steep terrain. Both factors inhibit the possibility of an ordnance sweep and cleaning for potential development. The land is outleased to Fish and Wildlife Service for use and surveillance as a conservation zone.

<table>
<tr><th colspan="2">LAND USE CATEGORY</th><th colspan="2">ACRES</th></tr>
<tr><td colspan="2">Total Developed: (administration, operational, housing, recreational, training, etc.)</td><td colspan="2">8</td></tr>
<tr><td colspan="2" rowspan="2">Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)</td><td>Wetlands:</td><td>0</td></tr>
<tr><td>All Others:</td><td>0</td></tr>
<tr><td colspan="2">Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL</td><td colspan="2">0</td></tr>
<tr><td colspan="2">Total Undeveloped land considered to be without development constraints</td><td colspan="2">0</td></tr>
<tr><td colspan="2">Total Off-base lands held for easements/lease for specific purposes</td><td colspan="2">0</td></tr>
<tr><td rowspan="7">Breakout of undeveloped, restricted areas. Some restricted areas may overlap:</td><td>ESQD</td><td colspan="2">0</td></tr>
<tr><td>HERF</td><td colspan="2">0</td></tr>
<tr><td>HERP</td><td colspan="2">0</td></tr>
<tr><td>HERO</td><td colspan="2">0</td></tr>
<tr><td>AICUZ</td><td colspan="2">0</td></tr>
<tr><td>Airfield Safety Criteria</td><td colspan="2">0</td></tr>
<tr><td>Other</td><td colspan="2">0</td></tr>
</table>

8c. How many acres on your base (includes off base sites) are dedicated for training purposes (e.g., vehicular, earth moving, mobilization)? This does not include buildings or interior small arms ranges used for training purposes. ___8136___. **The Station dedicates 56 acres for mobilization training at Camp Moscrip; 412 acres for operational training on Piñeros and Cabeza de Perro Islands; 7,223 acres for operational training at the Inner Range, including the buffer zone, on the Eastern Maneuver Area, Vieques Island; and 445 acres for quarry training operations on Vieques West. This acreage has been reported as operational in previous data calls.**

8d. What is the date of your last AICUZ update? **June 1986** Are any waivers of airfield safety criteria in effect on your base? **YES.** Summarize the conditions of the waivers below.

See Attachment H.

8e. List the off-base land use *types* (e.g, residential, industrial, agricultural) and *acreage* within Noise Zones 2 & 3 generated by your flight operations and whether it is compatible/incompatible with AICUZ guidelines on land use.

Acreage/Location/ID	Zones 2 or 3	Land Use	Compatible/ Incompatible
Runway 07 Approach:			
17 Acres/Clear Zone	**Zone 3**	**Open Space-agricultural**	**Incompatible**[1]
195 Acres/I-2	**Zone 2**	**Open Space**	**Compatible**
114 Acres/II-2	**Zone 2**	**Open Space**	**Compatible**
580 Acres/2	**Zone 2**	**Open Space**	**Compatible**
93 Acres/3	**Zone 3**	**Residential-low density**	**Incompatible**

[1]**There are no zoning restrictions to prevent further development**

8f. List the navigational channels and berthing areas controlled by your base which require maintenance dredging? Include the frequency, volume, current project depth, and costs of the maintenance requirement.

Navigational Channels/ Berthing Areas	Location / Description	Maintenance Dredging Requirement			
		Frequency	Volume (MCY)	Current Project Depth (FT)	Cost ($M)
1					

[1]No maintenance **dredging is required** for the approach channel or berthing areas. Ensenada Honda (Harbor) and channel were dredged to current depths in 1965. Approach channel to Mosquito Pier, Vieques was dredged in 1961. Refer to Data Call 37 question #3.

8g.
Summarize planned projects through FY 1997 requiring **new channel or berthing area** dredged depths, include location, volume and depth.

No projects for new channel or berthing area which require dredging are planned through FY97.

8h.

Are there available **designated dredge disposal areas** for maintenance dredging material? List location, remaining capacity, and future limitations.	N/A
Are there available **designated dredge disposal areas** for new dredge material? List location, remaining capacity, and future limitations.	NONE
Are the dredged materials considered contaminated? List known contaminants.	N/A

8i. List any requirements or constraints resulting from consistency with **State Coastal Zone Management Plans.**

Requirements: Coastal Zone Management Plan Consistency Certifications must be submitted to the Puerto Rico Planning Board (PRPB) for projects that would impact waters or wetlands located within one mile from the sea shore. Depending on the kind of project, the PRPB may also require a Water Quality Certificate from the Puerto Rico Environmental Quality Board.

8j. Describe any **non-point source pollution problems affecting water quality** ,e.g.: coastal erosion.

Non-point source pollution problems were identified at the Atlantic Fleet Weapons Training Facility Inner Range at Vieques during the 1994 Environmental Compliance Evaluation by CINCLANTFLT. Soil erosion control measures (installation of sediment fences, diversion of waters) will be implemented during the next range refurbishment in June 1994.

See Attachment I for outfall problems and descriptions.

8k.

If the base has a cooperative agreement with the US Fish and Wildlife Service and/or the State Fish and Game Department for conducting a hunting and fishing program, does the agreement or these resources constrain either current or future operations or activities? Explain the nature and extent of restrictions.	NO

The Naval Station does not have a cooperative agreement for conducting hunting.

8l. List any other areas on your base which are indicated as protected or preserved habitat other than threatened/endangered species that have been listed in Section 1. List the species, whether or not treated, and the acres protected/preserved.

There are no other threatened or endangered species.

9. WRAP UP

9a. Are there **existing or potential environmental showstopper** that have affected or will affect the accomplishment of the installation mission that have not been covered in the previous 8 questions?

No.

9b. Are there any other **environmental permits** required for base operations, include any relating to industrial operations.

Yes. Hazardous Waste Generator Permit for offsite facilities (Vieques Island) and the Ammunition Treatment (HW) Subject Part X Permit for AFWTF Inner Range (Vieques Island).

9c. Describe any **other environmental or encroachment restrictions** on base property not covered in the previous 8 sections.

There are no other environmental or encroachment restrictions.

9d. List any **future/proposed laws/regulations or any proposed laws/regulations** which will constrain base operations or development plans in any way. Explain.

New SPCC regulation (40 CFR 112), which is expected to be final in summer 1994, may affect operations at facilities handling petroleum, oils and lubricants (POLs). The greatest effect will be the requirement for response equipment and resources to respond to a worst case spill scenario. Equipment and development of plans to respond to a worst case scenario will be required as part of the proposed ruling.

EPCRA and Hazardous Waste Minimization (Pollution Prevention). New regulatory requirements will be oriented toward the substitution of hazardous materials with non-hazardous materials rather than the recycling or reuse of hazardous waste. This action may affect maintenance shop operations by requiring the modification/substitution of equipment and processes used for maintenance purposes.

Clean Air Act (CAA), Title III. The new Title III of the Clean Air Act will require monitoring of hazardous air pollutants which will affect the operation at facilities handling petroleum products because it will require the collection of volatile organic compounds (VOCs). Also, it will affect any operation using hazardous organic pollutants, such as like methane at the sewage treatment plants.

ATTACHMENT
A

Tenant Activity List

TENANT ACTIVITY LIST

- Tenants residing on main complex (shore commands)

Tenant Command Name	UIC
Atlantic Fleet Weapons Training Facility	0017A
Naval Computer Telecommunication Station	00743
Commander Fleet Air, Caribbean	09003
Patrol Squadron VP-8	09661
Fleet Composite Squadron VC-8	09948
Fleet Imaging Center	30047
Explosive Ordnance Disposal Group 2 Det	30714
2ND NCB Detachment	35182
Naval Legal Service Office Det.	35496
Navy Broadcasting Service Detachment	42021
Personnel Support Activity Detachment	43334
Naval Branch Medical Clinic, Vieques	43680
USCINCLANT (DEPT CFAC)	45099
Tactical Support Center	47229
US Coast Guard Greater Antilles Section	48424
Antisubmarine Warfare Communication Detachment	48846

TENANT ACTIVITY LIST: (Con't)

- Tenants residing on main complex (shore commands) (Con't)

Tenant Command Name	UIC
Defense Commissary Agency	49220
Commander Naval Surface Group	49735
Naval Special Warfare Unit 4	55180
Naval Weapons Station	60701
Naval Criminal Investigative Service Office	63121
Naval Mobile Construction Battalion	63829
Naval Hospital	65428
Naval Oceanography Command Detachment	65877
Marine Corps Security Force Company Detachment	67411
Defense Printing Service Det	68018
Naval Research Laboratory	68104
Naval Education Training Support Center	68322
Naval Dental Center	68445
Naval Reserve Center	68702
Resident Officer in Charge of Construction	68762
Special Boat Unit 20	68975
Antilles Consolidated School System	EPRAN
437th Military Airlift Wing (MAC)	FB44XX
Defense Reutilization and Marketing Office	SY2652
U.S. Army Veterinary Service	W3QM18

TENANT ACTIVITY LIST: (Con't)

- Tenants residing on main complex (shore commands) (Con't)

Tenant Command Name	UIC
699th CO, USAG, Fort Buchanan	WRZNAA
390th CO, USAG, Fort Buchanan	WVGQAA
Defense Finance Accounting Service	XDRROOSRD S
Navy Federal Credit Union	None
Navy Relief Society	None
New Hampshire College	None
American Red Cross	None
Central Texas College	None
Banco Popular de Puerto Rico	None
Columbia College	None
U.S. Customs	None
Defense Courier Service	None
McDonald's	None

- Tenants residing on main complex (homeported units.)

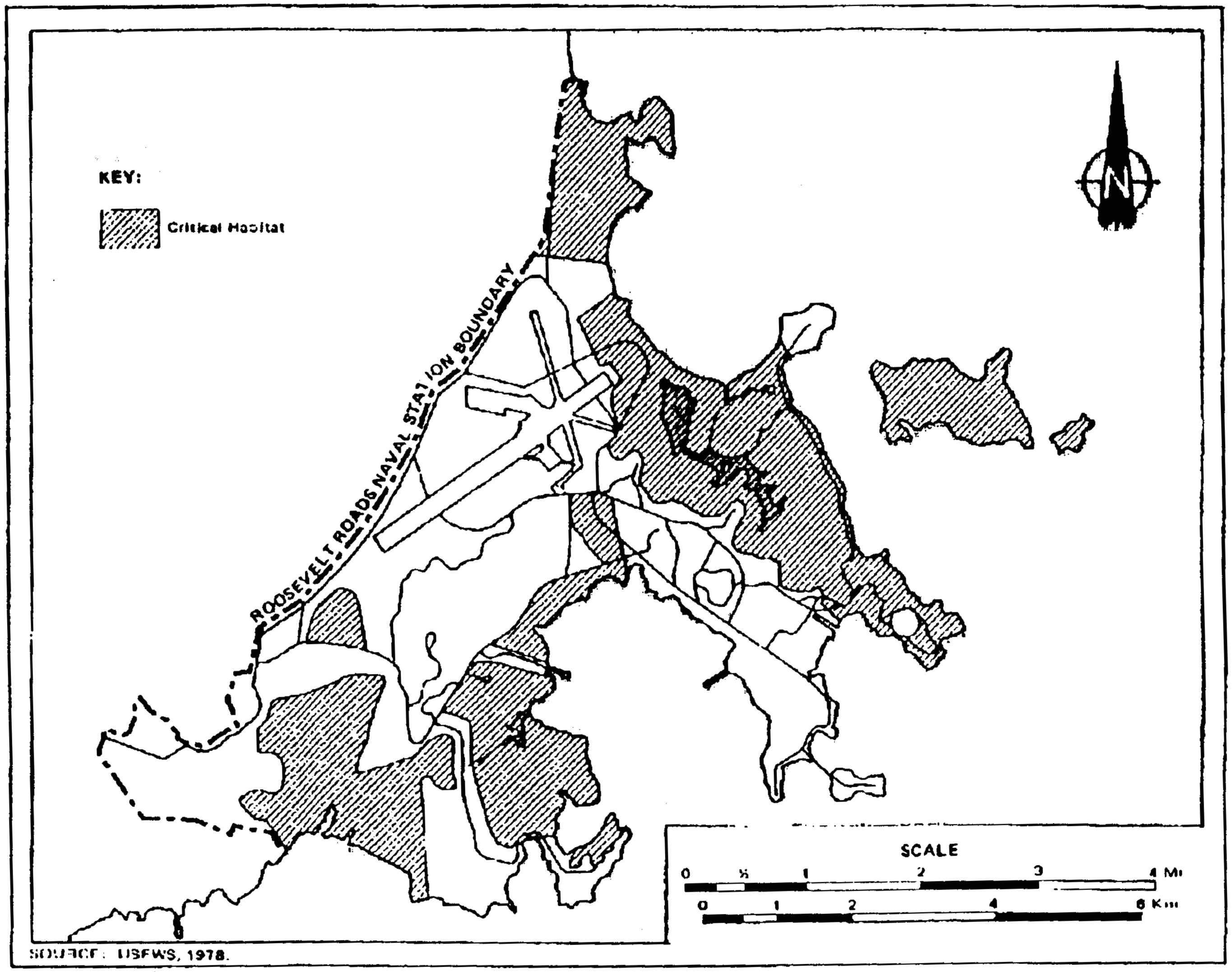
Tenant Command Name	UIC
COMSOLANT	57061
U.S. Coast Guard	Z76140

- Tenants residing in Special Areas

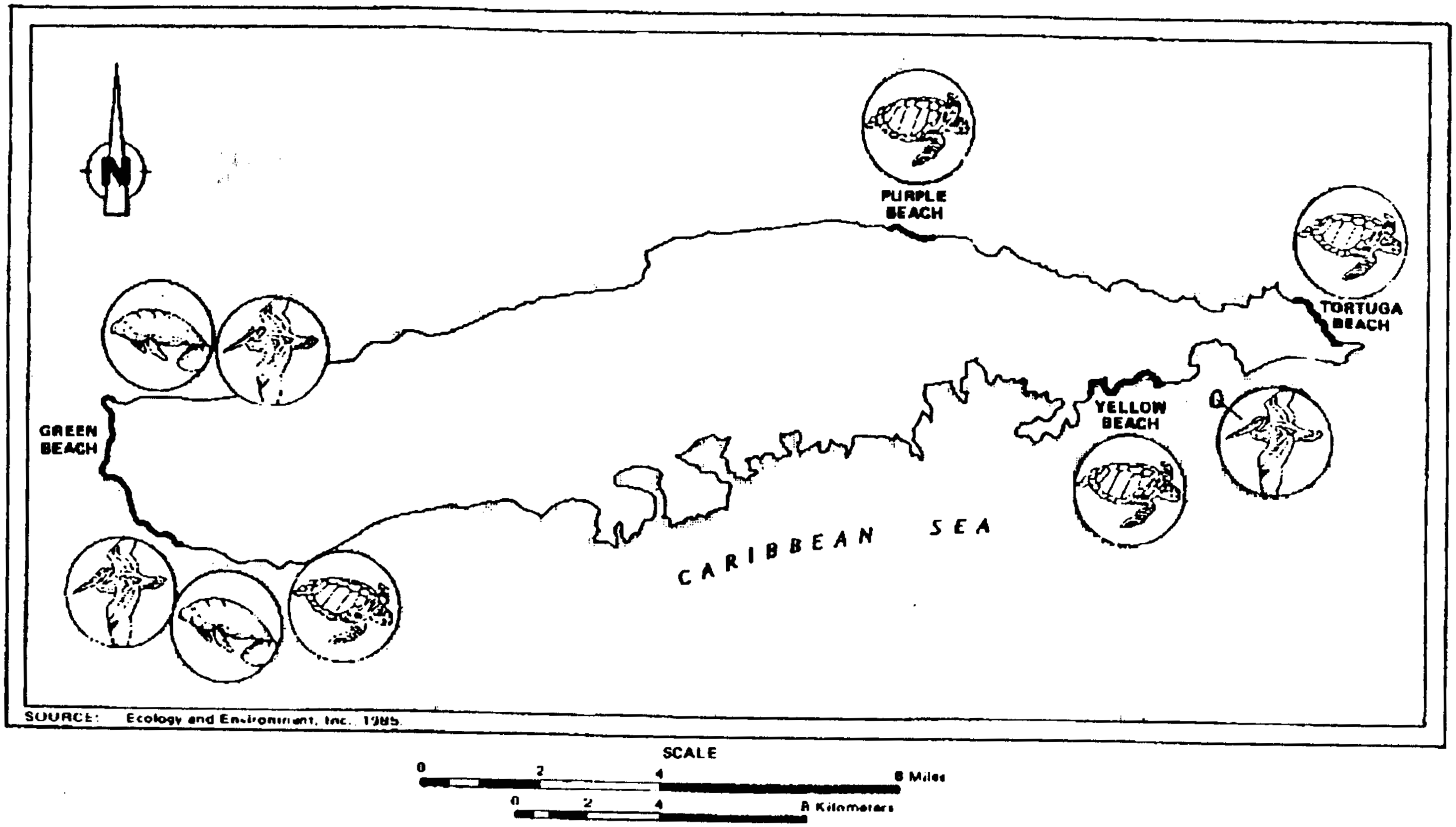
Tenant Command Name	UIC	Location
Federal Bureau of Prisons	None	San Juan
Naval Reserve Recruiting Command Det Four	47766	San Juan
U.S. Department of Agriculture	None	San Juan
Food & Drug Administration	None	San Juan
Sea Cadets	None	San Juan
Civil Air Patrol	None	San Juan

ATTACHMENT
B

Supplemental Information for
Items 1a and 1c



CRITICAL HABITAT FOR YELLOW-SHOULDERED BLACKBIRD ON NAVSTA ROOSEVELT ROADS



MAJOR THREATENED AND ENDANGERED SPECIES
HABITAT ON VIEQUES

ATTACHMENT
C

Supplemental Information for
Item 3a

Table 1 (Cont.)

Site Number*	Site Name	Site Type/ Cultural Period	Location at Naval Station Roosevelt Roads	Description	Potentially Eligible for NRHP**
Ceiba 10	Playa Blanca 5	Small village or hamlet site/late prehistoric	On a knoll top east of Langley Drive	Surface and intact subsurface deposits of ceramics shell, bone, and stone	Yes
Ceiba 11	Playa Blanca 6	Hamlet site/late prehistoric	On a knoll top west of mangrove at Ensenada Honda, on north side of Caño de los Indios	Surface and intact subsurface deposits of ceramics, shell, bone, and stone	Yes

*Refer to figure B-1 for site locations
**NRHP = National Register of Historic Places
†Insufficient information for assessment at this time; restrict access in areas of potential (suspected) site locations.

Sources: Pinart 1893; Rouse 1952; Woods 1977; Rodríguez López 1981b; and Ecology and Environment, Inc. 1984a and 1985.

Table C-1

INFORMATION FOR CLASS I CULTURAL RESOURCES LOCATED AT NAVAL STATION ROOSEVELT ROADS

Site Number*	Site Name	Site Type/ Cultural Period	Location at Naval Station Roosevelt Roads	Description	Potentially Eligible for NRHP**
Ceiba 1	Playa Blanca	Small campsite/probable preceramic deposit	West of mangrove at Ensenada Honda, on north side of Caño de los Indios	Small shell heap with noticeable absence of ceramic artifacts	Probably destroyed†
Ceiba 2	Ensenada Honda	Small village site/ primarily Santa Elena and Esperanza	On small islet on south side of Ensenada Honda	Surface and subsurface deposits of ceramic and shell, including lithic, shell, and bone tools	Yes
Ceiba 3	Ensenada Honda Petroglyph Site 1: Northern Group	Petroglyphs/Chicoid	Ensenada Honda on north side of Caño de los Indios, at waters edge	Anthropomorphic figures on boulders	Yes
Ceiba 4	Ensenada Honda Petroglyph Site 2: Southern Group	Petroglyphs/Chicoid	Ensenada Honda on south side of Caño de los Indios, at waters edge	Anthropomorphic figures on boulders	Yes
Ceiba 5	Playa Blanca 2	Small campsite/unknown	West of mangrove at Ensenada Honda, on north side of Caño de los Indios	Surface scatter of ceramic; tentative absence of shell refuse	No data†
Ceiba 6	Playa Blanca 3	Small campsite/possible preceramic deposit	West of mangrove at Ensenada Honda, on north side of Caño de los Indios	Shell heap with tentative absence of ceramic	No data†
Ceiba 9	Playa Blanca 4	Small campsite/late Saladoid and early Ostionoid	At the base of a small hill on south side of Caño de los Indios	Surface scatter of ceramics and shell, indications of intact subsurface deposits	Yes

ATTACHMENT
D

Supplemental Information for
Item 4a

Landfill

From operating permit: 50 ton/day for 5 years

From FY 94 Solid Waste Annual Report Guide: Municipal solid waste compacted: 50 lb/y^3

Permitted capacity (in cubic yards (CYDs))

$$= \frac{50\ ton}{day} * \frac{2000\ lb}{ton} * \frac{1y^3}{500\ lb} = \frac{200\ y^3}{day}$$

$$= \frac{200\ y^3}{day} * \frac{22\ day}{month} * \frac{12\ months}{1\ year} * 5\ year$$

$$= 264{,}000\ y^3\ or\ CYD$$

Maximum Capacity from Draft Study for Sanitary Landfill Closure, Malcolm Pirnie, Jul 93

= 425,000 y^3

Remaining capacity = 425,000y^3 - 264,000y^3 = 161,000y^3

NPDES PERMIT VIOLATIONS
BASED ON FFCA INTERIM LIMITS
MAY 90 TO APR 94

Dec-92	1
Jan-93	0
Feb-93	0
Mar-93	0
Apr-93	1
May-93	7
Jun-93	4
Jul-93	3
Aug-93	0
Sep-93	3
OCT-93	0
NOV-93	0
DEC-93	0
JAN-94	0
FEB-94	0
MAR-94	0
APR-94	0
TOTAL	426

SEWAGE BYPASS HISTORY
JUL 91 TO APR 94

MONTH	TOTAL
Jul-91	3
Aug-91	2
Sep-91	4
Oct-91	7
Nov-91	1
Dec-91	2
Jan-92	2
Feb-92	1
Mar-92	1
Apr-92	1
May-92	4
Jun-92	0
Jul-92	0
Aug-92	1
Sep-92	0
Oct-92	0
Nov-92	0
Dec-92	2
Jan-93	1
Feb-93	1
Mar-93	1
Apr-93	1
May-93	2
Jun-93	0
Jul-93	1
Aug-93	0
Sep-93	0
Oct-93	1
Nov-93	1
Dec-93	0
Jan-94	0

SEWAGE BYPASS HISTORY
JUL 91 TO APR 94

Feb-94	1
Mar-94	0
Apr-94	0
TOTAL	41

ATTACHMENT
F

Supplemental Information for
Items 5c and 5d

PERMITTED STATIONARY EMISSION SOURCES (FY 92/93)

SUMMARY

(tons/year)

Permitted Stationary Emission Sources	1992 Pollutant (tons/year)			
	CO	NO_x	VOC	PM
Boilers	0.577	2.307	0.065	0.231
Emergency Power Generators	2.310	10.620	0.000	0.760
Incinerators	0.190	0.057	0.000	0.133
Spray Paint Booth Systems:	0.000	0.000	2.246	0.000
Dry Cleaning Systems	0.000	0.000	0.000	0.336
Fire Training Pit	0.006	0.240	.0007	0.002
Quarry Operation	0.000	0.000	0.000	16.549
Asphalt Plant Operations	0.190	0.180	0.140	3.000
Tanks	0.000	0.000	12.458	0.000
Total Emissions - tons/yr	3.273	13.404	14.910	21.011

Permitted Stationary Emission Sources	1993 Pollutant (tons/year)			
	CO	NO_x	VOC	PM
Boilers	0.577	2.307	0.065	0.231
Emergency Power Generators	4.570	21.030	0.000	1.500
Incinerators	0.190	0.057	0.000	0.133
Spray Paint Booth Systems	0.000	0.000	2.246	0.000
Dry Cleaning Systems	0.000	0.000	0.000	0.336
Fire Training Pit	0.006	0.024	.0007	0.002
Quarry Operation	0.000	0.000	0.000	16.549
Asphalt Plant Operations	0.190	0.180	0.140	3.000
Tanks	0.000	0.000	12.458	0.000
Total Emissions - tons/yr	5.533	23.598	14.910	21.751

PERMITTED STATIONARY EMISSION SOURCES (BOILERS - FY 92)

Permitted Stationary Emission Sources	1992 Pollutant lbs/yr			
	CO	NO_x	VOC	PM
Boilers:				
B. 729	21.950	87.800	2.441	8.780
B. 731	21.950	87.800	2.441	8.780
B. 732	21.950	87.800	2.441	8.780
B. 733	21.950	87.800	2.441	8.780
B. 734	21.950	87.800	2.441	8.780
B. 1808	75.075	300.300	8.348	30.030
B. 3047	38.400	153.600	4.270	15.360
B. 1686 (B.1)	210.000	840.00	23.352	84.000
B. 1686 (B.2)	210.000	840.00	23.352	84.000
B. 1686 (B.3)	210.000	840.00	23.352	84.000
B. 1790 (B.1)	150.000	600.000	16.680	60.000
B. 1790 (B.2)	150.000	600.000	16.680	60.000
Total Emissions - lbs/yr	1,153.225	4,612.900	128.239	461.290
Total Emissions - tons/yr	0.577	2.307	0.064	0.231

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 1790

EQUIPMENT DESCRIPTION:	Commercial Boilers
MANUFACTURED BY:	Superior Combustion Industries
SERIAL NUMBER:	6601-6929

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gal)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 I
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 S I
Carbon Monoxide (CO)	5 S
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 70 F:	6.77 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	60.00 gallons/hour
c)	Yearly Fuel Average Consumption:	30,000 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.120	60.000	0.0161
SO2		3.408	1704.000	0.4585
SO3		0.048	24.000	0.0065
CO		0.300	150.000	0.0404
NO		1.200	600.000	0.1614
VOC:	Non-Methane	0.020	10.200	0.0027
	Methane	0.013	6.480	0.0017

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 1790

EQUIPMENT DESCRIPTION: Commercial Boilers
MANUFACTURED BY: Superior Combustion Industries
SERIAL NUMBER: 6601-6939

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142 ' S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2 ' S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 70 F:	6.77 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	60.00 gallons/hour
c)	Yearly Fuel Average Consumption:	30,000 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.120	60.000	0.0161
SO2		3.408	1704.000	0.4585
SO3		0.048	24.000	0.0065
CO		0.300	150.000	0.0404
NO		1.200	600.000	0.1614
VOC:	Non- Methane	0.020	10.200	0.0027
	Methane	0.013	6.480	0.0017

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS

EQUIPMENT DESCRIPTION: Commercial Boilers
MANUFACTURED BY: Superior Combustion Industries
SERIAL NUMBER: 6177-6512, 6177-6513, 6177-6514

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42.

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 70 F:	6.77 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	42.60 gallons/hour
c)	Yearly Fuel Average Consumption:	42,000 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.085	84.000	0.0161
SO2		2.420	2385.000	0.4585
SO3		0.034	33.600	0.0065
CO		0.213	210.000	0.0404
NO		0.852	840.000	0.1614
VOC:	Non-Methane	0.014	14.280	0.0027
	Methane	0.009	9.072	0.0017

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 729

EQUIPMENT DESCRIPTION: Firetube, package type boiler; 30 HP
MANUFACTURED BY: Industrial Boiler Co., Inc.
MODEL NUMBER: PFDH3002
SERIAL NUMBER: S3049

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	7.25 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.015	8.780	0.0144
SO2		0.412	249.352	0.4095
SO3		0.006	3.512	0.0058
CO		0.036	21.950	0.0361
NO		0.145	87.800	0.1442
VOC:	Non-Methane	0.002	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 731

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9246

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 732

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30 HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9244

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 733

EQUIPMENT DESCRIPTION: Commercial Boiler; 30 HP
MANUFACTURED BY: Carlin WL Commercial
MODEL NUMBER: WL-1296
SERIAL NUMBER: 87-9245

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.020	8.780	0.0144
SO2	0.568	249.352	0.4095
SO3	0.008	3.512	0.0058
CO	0.050	21.950	0.0361
NO	0.200	87.800	0.1442
VOC: Non-Methane	0.003	1.493	0.0025
Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 734

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30 HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9247

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO_2);{S = %wt. = %wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO_3);S = %wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 1808, #1

EQUIPMENT DESCRIPTION:	Boiler; 80 HP
MANUFACTURED BY:	Kewanee
MODEL NUMBER:	N/A
SERIAL NUMBER:	R0719

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	23.60 gallons/hour
c)	Yearly Fuel Average Consumption:	15,015 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.047	30.030	0.0144
SO2		1.340	852.852	0.4095
SO3		0.019	12.012	0.0058
CO		0.118	75.075	0.361
NO		0.472	300.300	0.1442
VOC:	Non-Methane	0.008	5.105	0.0025
	Methane	0.005	3.243	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 3047, #1

EQUIPMENT DESCRIPTION: Heat & Steam Plant Boiler; 40 HP
MANUFACTURED BY: Cleaver Brooks
MODEL NUMBER: CB-100-40
SERIAL NUMBER: L-82598

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	12.00 gallons/hour
c)	Yearly Fuel Average Consumption:	7,680 gallons/year

Boiler Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.024	15.360	0.0144
SO2	0.682	436.224	0.4095
SO3	0.010	6.144	0.0058
CO	0.060	38.400	0.0361
NO	0.240	153.600	0.1442
VOC: Non-Methane	0.004	2.611	0.0025
Methane	0.003	1.659	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

PERMITTED STATIONARY EMISSION SOURCES (BOILERS - FY 93)

	1993			
Permitted Stationary Emission Sources	Pollutant lbs/yr			
	CO	NO_x	VOC	PM
Boilers:				
B. 729	21.950	87.800	2.441	8.780
B. 731	21.950	87.800	2.441	8.780
B. 732	21.950	87.800	2.441	8.780
B. 733	21.950	87.800	2.441	8.780
B. 734	21.950	87.800	2.441	8.780
B. 1808	75.075	300.300	8.348	30.030
B. 3047	38.400	153.600	4.270	15.360
B. 1686 (B.1)	210.000	840.000	23.352	84.000
B. 1686 (B.2)	210.000	840.000	23.352	84.000
B. 1686 (B.3)	210.000	840.000	23.352	84.000
B. 1790 (B.1)	150.000	600.000	16.680	60.000
B. 1790 (B.2)	150.000	600.000	16.680	60.000
Total Emissions - lbs/yr	1,153.225	4,612.900	128.239	461.290
Total Emissions - tons/yr	0.577	2.307	0.064	0.231

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 1790

EQUIPMENT DESCRIPTION: Commercial Boilers
MANUFACTURED BY: Superior Combustion Industries
SERIAL NUMBER: 6601-6929

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 70 F:	6.77 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	60.00 gallons/hour
c)	Yearly Fuel Average Consumption:	30,000 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.120	60.000	0.0161
SO2		3.408	1704.000	0.4585
SO3		0.048	24.000	0.0065
CO		0.300	150.000	0.0404
NO		1.200	600.000	0.1614
VOC:	Non-Methane	0.020	10.200	0.0027
	Methane	0.013	6.480	0.0017

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 1790

EQUIPMENT DESCRIPTION: Commercial Boilers
MANUFACTURED BY: Superior Combustion Industries
SERIAL NUMBER: 6601-6939

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 70 F:	6.77 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	60.00 gallons/hour
c)	Yearly Fuel Average Consumption:	30,000 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.120	60.000	0.0161
SO2		3.408	1704.000	0.4585
SO3		0.048	24.000	0.0065
CO		0.300	150.000	0.0404
NO		1.200	600.000	0.1614
VOC:	Non- Methane	0.020	10.200	0.0027
	Methane	0.013	6.480	0.0017

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS

EQUIPMENT DESCRIPTION:	Commercial Boilers
MANUFACTURED BY:	Superior Combustion Industries
SERIAL NUMBER:	6177-6512, 6177-6513, 6177-6514

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42.

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 70 F:	6.77 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	42.60 gallons/hour
c)	Yearly Fuel Average Consumption:	42,000 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.085	84.000	0.0161
SO2		2.420	2385.000	0.4585
SO3		0.034	33.600	0.0065
CO		0.213	210.000	0.0404
NO		0.852	840.000	0.1614
VOC:	Non-Methane	0.014	14.280	0.0027
	Methane	0.009	9.072	0.0017

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 729

EQUIPMENT DESCRIPTION:	Firetube, package type boiler; 30 HP
MANUFACTURED BY:	Industrial Boiler Co., Inc.
MODEL NUMBER:	PFDH3002
SERIAL NUMBER:	S3049

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	7.25 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.015	8.780	0.0144
SO2		0.412	249.352	0.4095
SO3		0.006	3.512	0.0058
CO		0.036	21.950	0.0361
NO		0.145	87.800	0.1442
VOC:	Non-Methane	0.002	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 731

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9246

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 732

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30 HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9244

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 733

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30 HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9245

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 734

EQUIPMENT DESCRIPTION:	Commercial Boiler; 30 HP
MANUFACTURED BY:	Carlin WL Commercial
MODEL NUMBER:	WL-1296
SERIAL NUMBER:	87-9247

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	10.00 gallons/hour
c)	Yearly Fuel Average Consumption:	4,390 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.020	8.780	0.0144
SO2		0.568	249.352	0.4095
SO3		0.008	3.512	0.0058
CO		0.050	21.950	0.0361
NO		0.200	87.800	0.1442
VOC:	Non-Methane	0.003	1.493	0.0025
	Methane	0.002	0.948	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 1808, #1

EQUIPMENT DESCRIPTION:	Boiler; 80 HP
MANUFACTURED BY:	Kewanee
MODEL NUMBER:	N/A
SERIAL NUMBER:	R0719

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142	[1] S
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2	[1] S
Carbon Monoxide (CO)	5	
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	23.60 gallons/hour
c)	Yearly Fuel Average Consumption:	15,015 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.047	30.030	0.0144
SO2		1.340	852.852	0.4095
SO3		0.019	12.012	0.0058
CO		0.118	75.075	0.361
NO		0.472	300.300	0.1442
VOC:	Non-Methane	0.008	5.105	0.0025
	Methane	0.005	3.243	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR BOILERS AT BUILDING 3047, #1

EQUIPMENT DESCRIPTION:	Heat & Steam Plant Boiler; 40 HP
MANUFACTURED BY:	Cleaver Brooks
MODEL NUMBER:	CB-100-40
SERIAL NUMBER:	L-82598

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42. Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulate Matter	2
Sulfur Dioxide (SO2);{S = %wt. = %wt. Sulfur}	142 [1] S
Sulfur Trioxide (SO3);S = %wt.Sulfur}	2 [1] S
Carbon Monoxide (CO)	5
Nitrogen Oxide (NO)	20
Volatile Organic Compounds (VOC):	
Non-Methane	0.340
Methane	0.216

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,534 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Boiler's Fire Rate:	12.00 gallons/hour
c)	Yearly Fuel Average Consumption:	7,680 gallons/year

Boiler Emission Calculations:

Parameter		Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates		0.024	15.360	0.0144
SO2		0.682	436.224	0.4095
SO3		0.010	6.144	0.0058
CO		0.060	38.400	0.0361
NO		0.240	153.600	0.1442
VOC:	Non-Methane	0.004	2.611	0.0025
	Methane	0.003	1.659	0.0016

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

PERMITTED STATIONARY EMISSION SOURCES
(EMERGENCY POWER GENERATORS - FY 92)

Permitted Stationary Emission Sources	1992			
	Pollutant lbs/yr			
	CO	NO_x	VOC	PM
Emergency Power Generator (EPG)				
B. 386	206	946		68
B. 386	206	946		68
B. 296	214	985		70
B. 1970	286	1,313		94
B. 1970	286	1,313		94
B. 774	61	281		20
B. 2045	46	214		15
B. 2037	103	473		34
B. 1978	286	1313		94
B. 3018	179	821		59
B. 1982	2,749	12,640		903
Total Emissions - lbs/yr	4,622.00	21,245.00	0.00	1,519.00
Total Emissions - tons/yr	2.31	10.62	0.00	0.76

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 386(G1)

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 800 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	500ROZD87
SERIAL NUMBER:	285651

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	42.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,016 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.41	67.54	0.2415
SO_x	1.31	62.90	0.2249
CO	4.28	205.63	0.7354
NO_x	19.70	945.50	3.3814
HC:	1.58	75.50	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 386(G2)

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 800 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	500R0ZD87
SERIAL NUMBER:	285650

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	42.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,016 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.41	67.54	0.2415
SO_x	1.31	62.90	0.2249
CO	4.28	205.63	0.7354
NO_x	19.70	945.50	3.3814
HC:	1.58	75.60	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 296

EQUIPMENT DESCRIPTION: Emergency Power Generator, 241 HP(180 KW)
MANUFACTURED BY: Kohler
MODEL NUMBER: 180R0CJ81
SERIAL NUMBER: 285857

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	6.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,100 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.20	70.35	0.2415
SO_x	0.19	65.52	0.2249
CO	0.61	214.20	0.7354
NO_x	2.81	984.90	3.3814
HC:	0.23	78.75	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1970

EQUIPMENT DESCRIPTION: Emergency Power Generator, 268 HP
MANUFACTURED BY: ONAN/Engine by Cummings
MODEL NUMBER: 200DFPO2719M
SERIAL NUMBER: G89025341

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,800 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	93.80	0.2415
SO_x	0.25	87.36	0.2249
CO	0.82	285.60	0.7354
NO_x	3.75	1313.20	3.3814
HC:	0.30	105.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1970

EQUIPMENT DESCRIPTION: Emergency Power Generator, 268 HP
MANUFACTURED BY: Consolidated Diesel Electric
MODEL NUMBER: MEP009B
SERIAL NUMBER: RC00249

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,800 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	93.80	0.2415
SO_x	0.25	87.36	0.2249
CO	0.82	285.60	0.7354
NO_x	3.75	1313.20	3.3814
HC:	0.30	105.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 774

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 201.15 HP
MANUFACTURED BY:	Empire
MODEL NUMBER:	1500-DGW-8E
SERIAL NUMBER:	465-145

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	12.50 gallons/hour
c)	Yearly Fuel Average Consumption:	600 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.42	20.10	0.2415
SO_x	0.39	18.72	0.2249
CO	1.28	61.20	0.7354
NO_x	5.86	281.40	3.3814
HC:	0.47	22.50	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 2045

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 211 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	125ROZJ81
SERIAL NUMBER:	4S13

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	9.50 gallons/hour
c)	Yearly Fuel Average Consumption:	456 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.32	15.28	0.2415
SO_x	0.30	14.23	0.2249
CO	0.97	46.51	0.7354
NO_x	4.46	213.86	3.3814
HC:	0.36	17.10	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 2037

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 423 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	250ROZD
SERIAL NUMBER:	4U10R

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	21.00 gallons/hour
c)	Yearly Fuel Average Consumption:	1,008 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.70	33.77	0.2415
SO_x	0.66	31.45	0.2249
CO	2.14	102.82	0.7354
NO_x	9.85	472.75	3.3814
HC:	0.79	37.80	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1978

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 260 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	433RSL2023BFW
SERIAL NUMBER:	XJ3829830

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,800 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	93.80	0.2415
SO_x	0.25	87.36	0.2249
CO	0.82	285.60	0.7354
NO_x	3.75	1313.20	3.3814
HC:	0.30	105.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 3018

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 150KW (270 HP)
MANUFACTURED BY:	Caterpillar
MODEL NUMBER:	D-342
SERIAL NUMBER:	49B1923

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	5.00 gallons/hour
c)	Yearly Fuel Average Consumption:	1,750 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.17	58.63	0.2415
SO_x	0.16	54.60	0.2249
CO	0.51	178.50	0.7354
NO_x	2.35	820.75	3.3814
HC:	0.19	65.63	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1982

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 1425 HP
MANUFACTURED BY:	GM
MODEL NUMBER:	9163-7305
SERIAL NUMBER:	HC-94744/Engine S/N 16E0004508

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	77.00 gallons/hour
c)	Yearly Fuel Average Consumption:	26,950 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	2.58	902.83	0.2415
SO_x	2.40	840.84	0.2249
CO	7.85	2748.90	0.7354
NO_x	36.11	12639.55	3.3814
HC:	2.89	1010.63	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

PERMITTED STATIONARY EMISSION SOURCES
(EMERGENCY POWER GENERATORS - FY 93)

Permitted Stationary Emission Sources	1993			
	Pollutant lbs/yr			
	CO	NO_x	VOC	PM
Emergency Power Generator				
B. 798	33.29	153.08		10.93
B. 827	33.29	153.08		10.93
B. Gate 1	4.21	19.36		1.38
B. 88	205.63	945.50		67.54
B. 386 (G1)	205.63	945.50		67.54
B. 386 (G2)	205.63	945.50		67.54
B. 504	40.51	213.86		15.28
B. 1209	4.21	19.36		1.38
B. 1625	33.29	153.08		10.93
B. 1807	37.70	173.34		12.38
B. 1808	133.17	612.33		43.74
B. 2037	102.82	472.75		33.77
B. 2045	46.51	213.86		15.28
B. 3008	571.20	2,626.40		187.60
B. 1916	27.42	126.07		9.00
B. 53	405.39	1,863.99		133.14
B. 31	160.59	738.39		52.74
B. 1982	2,748.90	12,639.55		902.83
B. 3018	178.59	820.75		58.63
B. 1970 (G1)	285.60	1,313.20		93.80
B. 1970 (G2)	285.60	1,313.20		93.80
B. 1978	285.60	1,313.20		93.80
B. 296	214.20	984.90		70.35
B. 1790	510.00	2,345.00		167.50
B. 3036	856.80	3,939.60		281.40
B. 774	61.20	281.40		20.10
B. 2304	1,106.70	5,088.65		363.48
Vieques Quarry	142.80	656.60		46.90
Asphalt Plant	214.20	984.90		70.35
Total Emissions - lbs/yr	9,140.68	42,056.40	0.00	3,004.04
Total Emissions - tons/yr	4.57	21.03	0.00	1.50

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 798

EQUIPMENT DESCRIPTION: Emergency Power Generator, 149 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 80ROZJ
SERIAL NUMBER: 4S7/275500

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	6.80 gallons/hour
c)	Yearly Fuel Average Consumption:	326 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.23	10.93	0.2415
SO_x	0.21	10.18	0.2249
CO	0.69	33.29	0.7354
NO_x	3.19	153.08	3.3814
HC:	0.26	12.24	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 827

EQUIPMENT DESCRIPTION: Emergency Power Generator, 149 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 80ROZJ
SERIAL NUMBER: 4S7/275500

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	6.80 gallons/hour
c)	Yearly Fuel Average Consumption:	326 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.28	10.93	0.2415
SO_x	0.21	10.18	0.2249
CO	0.69	33.29	0.7354
NO_x	3.19	153.08	3.3814
HC:	0.26	12.24	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT GATE 1

EQUIPMENT DESCRIPTION: Emergency Power Generator, 16.5 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 30ROZJ
SERIAL NUMBER: WI530449CC0-RV

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	0.86 gallons/hour
c)	Yearly Fuel Average Consumption:	41 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.03	1.38	0.2415
SO_x	0.03	1.29	0.2249
CO	0.09	4.21	0.7354
NO_x	0.40	19.36	3.3814
HC:	0.03	1.55	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 88

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 800 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	500ROZD
SERIAL NUMBER:	4MM37

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	42.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,016 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.41	67.54	0.2415
SO_x	1.31	62.90	0.2249
CO	4.28	205.63	0.7354
NO_x	19.70	945.50	3.3814
HC:	1.58	75.60	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 386(G1)

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 800 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	500ROZD87
SERIAL NUMBER:	285651

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	42.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,016 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.41	67.54	0.2415
SO_x	1.31	62.90	0.2249
CO	4.28	205.63	0.7354
NO_x	19.70	945.50	3.3814
HC:	1.58	75.50	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 386(G2)

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 800 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	500R0ZD87
SERIAL NUMBER:	285650

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	42.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,016 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.41	67.54	0.2415
SO_x	1.31	62.90	0.2249
CO	4.28	205.63	0.7354
NO_x	19.70	945.50	3.3814
HC:	1.58	75.60	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 504

EQUIPMENT DESCRIPTION: Emergency Power Generator, 211 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 125ROZJ81
SERIAL NUMBER: 4S13

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	9.50 gallons/hour
c)	Yearly Fuel Average Consumption:	456 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.32	15.28	0.2415
SO_x	0.30	14.23	0.2249
CO	.97	40.51	0.7354
NO_x	4.46	218.86	3.3814
HC:	0.36	17.10	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1209

EQUIPMENT DESCRIPTION: Emergency Power Generator, 16.5 HP
MANUFACTURED BY: Yanmar
MODEL NUMBER: 3TN82E-RK
SERIAL NUMBER: N/A

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	0.86 gallons/hour
c)	Yearly Fuel Average Consumption:	41 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.03	1.38	0.2415
SO_x	0.03	1.29	0.2249
CO	0.09	4.21	0.7354
NO_x	0.40	19.36	3.3814
HC:	0.03	1.55	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.

- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1625

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 149 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	80ROZJ
SERIAL NUMBER:	4S7

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	6.80 gallons/hour
c)	Yearly Fuel Average Consumption:	326 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.23	10.93	0.2415
SO_x	0.21	10.18	0.2249
CO	0.69	33.29	0.7354
NO_x	3.19	153.08	3.3814
HC:	0.26	12.24	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1807

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 166 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	100ROZJ
SERIAL NUMBER:	4S9

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	7.70 gallons/hour
c)	Yearly Fuel Average Consumption:	370 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.26	12.38	0.2415
SO_x	0.24	11.53	0.2249
CO	0.79	37.76	0.7354
NO_x	3.61	173.34	3.3814
HC:	0.29	13.85	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1808

EQUIPMENT DESCRIPTION: Emergency Power Generator, 568 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 350R0ZD
SERIAL NUMBER: 4MM23

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	27.20 gallons/hour
c)	Yearly Fuel Average Consumption:	1,306 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.91	43.74	0.2415
SO_x	0.85	40.73	0.2249
CO	2.77	133.17	0.7354
NO_x	12.76	612.33	3.3814
HC:	1.02	48.96	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 2037

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 423 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	250ROZD
SERIAL NUMBER:	4U10R

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	21.00 gallons/hour
c)	Yearly Fuel Average Consumption:	1,008 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.70	33.77	0.2415
SO_x	0.66	31.45	0.2249
CO	2.14	102.82	0.7354
NO_x	9.85	472.75	3.3814
HC:	0.79	37.80	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 2045

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 211 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	125ROZJ81
SERIAL NUMBER:	4S13

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	9.50 gallons/hour
c)	Yearly Fuel Average Consumption:	456 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.32	15.28	0.2415
SO_x	0.30	14.23	0.2249
CO	0.97	46.51	0.7354
NO_x	4.46	213.86	3.3814
HC:	0.36	17.10	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 3008

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 430 HP
MANUFACTURED BY:	ONAN/Engine by Cummings
MODEL NUMBER:	VTA
SERIAL NUMBER:	28GC3

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	16.00 gallons/hour
c)	Yearly Fuel Average Consumption:	5,600 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.54	187.60	0.2415
SO_x	0.50	174.72	0.2249
CO	1.63	571.20	0.7354
NO_x	7.50	2626.40	3.3814
HC:	0.60	210.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1916

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 65 HP
MANUFACTURED BY:	Caterpillar
MODEL NUMBER:	SR-4
SERIAL NUMBER:	9BB00985

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	5.60 gallons/hour
c)	Yearly Fuel Average Consumption:	269 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.19	9.00	0.2415
SO_x	0.17	8.39	0.2249
CO	0.57	27.42	0.7354
NO_x	2.63	126.07	3.3814
HC:	0.21	10.08	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 53

EQUIPMENT DESCRIPTION: Emergency Power Generator, 368 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 250ROZD
SERIAL NUMBER:

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	82.80 gallons/hour
c)	Yearly Fuel Average Consumption:	3,974 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	2.77	133.14	0.2415
SO_x	2.58	124.00	0.2249
CO	8.45	405.39	0.7354
NO_x	38.83	1863.99	3.3814
HC:	3.11	149.04	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 31

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 540 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	350ROZD
SERIAL NUMBER:	289430

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	32.80 gallons/hour
c)	Yearly Fuel Average Consumption:	1574 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.10	52.74	0.2415
SO_x	1.02	49.12	0.2249
CO	3.35	160.59	0.7354
NO_x	15.38	738.39	3.3814
HC:	1.23	59.04	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1982

EQUIPMENT DESCRIPTION: Emergency Power Generator, 1425 HP
MANUFACTURED BY: GM
MODEL NUMBER: 9163-7305
SERIAL NUMBER: HC-94744/Engine S/N 16E0004508

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	77.00 gallons/hour
c)	Yearly Fuel Average Consumption:	26,950 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	2.58	902.83	0.2415
SO_x	2.40	840.84	0.2249
CO	7.85	2748.90	0.7354
NO_x	36.11	12639.55	3.3814
HC:	2.89	1010.63	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 3018

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 150KW (270 HP)
MANUFACTURED BY:	Caterpillar
MODEL NUMBER:	D-342
SERIAL NUMBER:	49B1923

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	5.00 gallons/hour
c)	Yearly Fuel Average Consumption:	1,750 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.17	58.63	0.2415
SO_x	0.16	54.60	0.2249
CO	0.51	178.50	0.7354
NO_x	2.35	820.75	3.3814
HC:	0.19	65.63	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1970

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 268 HP
MANUFACTURED BY:	ONAN/Engine by Cummings
MODEL NUMBER:	200DFPO2719M
SERIAL NUMBER:	G89025341

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,800 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	93.80	0.2415
SO_x	0.25	87.36	0.2249
CO	0.82	285.60	0.7354
NO_x	3.75	1313.20	3.3814
HC:	0.30	105.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1970

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 268 HP
MANUFACTURED BY:	Consolidated Diesel Electric
MODEL NUMBER:	MEP009B
SERIAL NUMBER:	RC00249

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,800 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	93.80	0.2415
SO_x	0.25	87.36	0.2249
CO	0.82	285.60	0.7354
NO_x	3.75	1313.20	3.3814
HC:	0.30	105.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1978

EQUIPMENT DESCRIPTION: Emergency Power Generator, 260 HP
MANUFACTURED BY: Kohler
MODEL NUMBER: 433RSL2023BFW
SERIAL NUMBER: XJ3829830

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,800 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	93.80	0.2415
SO_x	0.25	87.36	0.2249
CO	0.82	285.60	0.7354
NO_x	3.75	1313.20	3.3814
HC:	0.30	105.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 296

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 241 HP(180 KW)
MANUFACTURED BY:	Kohler
MODEL NUMBER:	180R0CJ81
SERIAL NUMBER:	285857

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	6.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,100 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.20	70.35	0.2415
SO_x	0.19	65.52	0.2249
CO	0.61	214.20	0.7354
NO_x	2.81	984.90	3.3814
HC:	0.23	78.75	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 1790

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 1280 HP
MANUFACTURED BY:	Caterpillar
MODEL NUMBER:	D339
SERIAL NUMBER:	35B334

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	77.00 gallons/hour
c)	Yearly Fuel Average Consumption:	5,000 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	2.58	167.50	0.2415
SO_x	2.40	156.00	0.2249
CO	7.85	510.00	0.7354
NO_x	36.11	2345.00	3.3814
HC:	2.89	187.50	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 3036

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 1025 HP
MANUFACTURED BY:	Kohler
MODEL NUMBER:	750ROZ DELTA 71
SERIAL NUMBER:	293528

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	175.00 gallons/hour
c)	Yearly Fuel Average Consumption:	8,400 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	5.86	281.40	0.2415
SO_x	5.46	262.08	0.2249
CO	17.85	856.80	0.7354
NO_x	82.08	3939.60	3.3814
HC:	6.56	315.00	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 774

EQUIPMENT DESCRIPTION: Emergency Power Generator, 201.15 HP
MANUFACTURED BY: Empire
MODEL NUMBER: 1500-DGW-8E
SERIAL NUMBER: 465-145

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	12.50 gallons/hour
c)	Yearly Fuel Average Consumption:	600 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.42	20.10	0.2415
SO_x	0.39	18.72	0.2249
CO	1.28	61.20	0.7354
NO_x	5.86	281.40	3.3814
HC:	0.47	22.50	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT BUILDING 2304

EQUIPMENT DESCRIPTION: Emergency Power Generator, 612.5 HP
MANUFACTURED BY: ONAN/Engine by Cummings
MODEL NUMBER: 450DMFAL/34629B
SERIAL NUMBER: H890261683

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	31.00 gallons/hour
c)	Yearly Fuel Average Consumption:	10,850 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	1.04	363.48	0.2415
SO_x	0.97	338.52	0.2249
CO	3.16	1106.70	0.7354
NO_x	14.54	5088.65	3.3814
HC:	1.16	406.88	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT VIEQUES ROCK QUARRY

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 344 HP
MANUFACTURED BY:	Consolidated Diesel Electric Co.
MODEL NUMBER:	MEP009A
SERIAL NUMBER:	VZ-00507

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	8.00 gallons/hour
c)	Yearly Fuel Average Consumption:	1,400 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.27	46.90	0.2415
SO_x	0.25	43.68	0.2249
CO	0.82	142.80	0.7354
NO_x	3.75	656.60	3.3814
HC:	0.30	52.50	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

EMISSION RATES: EMERGENCY POWER GENERATOR AT ASPHALT PLANT VIEQUES

EQUIPMENT DESCRIPTION:	Emergency Power Generator, 375 HP
MANUFACTURED BY:	N/A
MODEL NUMBER:	MCD 245-3
SERIAL NUMBER:	81388413

Emissions from the above equipment are estimated based on the following factors obtained from the U.S. EPA Agency Publication AP-42, Table 1.3.1.

Parameter	Factor (lbs/1000 gallons)
Particulates	33.5
Sulfur Oxides (SO_x)	31.2
Carbon Monoxide (CO)	102.0
Nitrogen Oxides (NO)	469.0
Hydrocarbons (HC)	37.5

The following data is used for the emission calculations:

a)	Fuel:	DIESEL FUEL MARINE (DFM)
	Heat of Combustion:	19,535 BTU/lb
	Density @ 70 F:	7.10 lbs/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fuel Usage Rate @ 80% output:	6.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,100 gallons/year

Emission Calculations:

Parameter	Emissions[1] (lbs/hr)	Emissions[2] (lbs/yr)	Emissions (lbs/MBTU)
Particulates	0.20	70.35	0.2415
SO_x	0.19	65.52	0.2249
CO	0.61	214.20	0.7354
NO_x	2.81	984.90	3.3814
HC:	0.23	78.75	0.2704

Note: [1]Emissions based on rated average fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

PERMITTED STATIONARY EMISSION SOURCES (FY 92/93)

Permitted Stationary Emission Sources	1992/1993 Pollutant lbs/yr CO	NO_x	VOC	PM
Incinerators:				
B. 1817	145.600	43.680		101.920
B. 1790	234.000	70.200		164.320
Total Emissions - lbs/yr	379.600	113.880		266.240
Total Emissions - tons/yr	0.190	0.057		0.133
Spray Paint Booth Systems:				
NMCB			3,185.000	
Hangar 200			400.630	
AIMD			905.410	
Total Emissions - lbs/yr			4,491.040	
Total Emissions - tons/yr			2.246	
Quarry Operations				33,098.340
Total Emissions - tons/yr				16.549
Asphalt Plant Operations	380.000	360.000	280.000	6,000.000
Total Emissions - tons/yr	0.190	0.180	0.140	3.000
Dry Cleaning Systems				672.594
Total Emissions - tons/yr				0.336
Fire Training Pit	12.000	48.000	1.334	4.800
Total Emissions - tons/yr	0.006	0.024	0.0007	0.002

APPLICATION FOR APPROVAL
FOR THE OPERATION OF EMISSION SOURCES
IN PUERTO RICO

PART IV COMPLIANCE:

1. Emissions from the Atlas Incinerator, Model 3232, were estimated from U.S. Environmental Protection Agency Publication AP-42, Compilation of Air Pollutant Emission Factors.

2. From Table 2.1-1 "Emission Factors for Refuse Incinerators without controls", the following factor(s) were obtained:

Parameter	Factor (lbs/ton)
Particulates	7.0
Sulfur Oxides	2.5
Carbon Monoxide	10.0
Organics	3.0
Nitrogen Oxides	3.0

3. The following data was used for emission calculations:

Incinerator Capacity:	80 lbs/hr
Normal Operating Hours:	1 hr/day 7 days/wk 52 wk yr

4. Calculations with the above factors yield the following emission estimates:

PARAMETER	EMISSION	
	LBS/HR	LBS/YR
Particulates	0.28	101.92
Sulfur Oxides	0.10	36.49
Carbon Monoxide	0.40	145.60
Organics	0.12	43.68
Nitrogen Oxides	0.12	43.68

Sample Calculation:

$$\frac{Particulates}{lbs/yr.} = \frac{7\ lbs}{ton} * \frac{80\ lbs}{hr} * \frac{1\ ton}{2000\ lbs} = 0.28\ \frac{lbs}{hr}$$

$$\frac{Particulates}{lbs/yr.} = \frac{0.28\ lbs}{hr} * \frac{1\ hr}{day} * \frac{7\ days}{week} * \frac{52\ wks}{yr} = 101.92\ \frac{lbs}{yr}$$

5. Emissions are within Puerto Rico's regulations as contained in Commonwealth Regulations for the Control of Atmospheric Pollution.

EMISSION RATES FOR PATHOLOGICAL INCINERATOR, MODEL NO. P-200

1. Emissions for the Pathological Incinerator, Model No. P-200 were tested for the manufacturer, National Incinerator, Inc., following procedures in the code of federal Regulations, Title 40, Part 60, Appendix a. The emission test results are included in the attached report.

2. The pathological incinerator will process wastes types 1-6 with less than 30 percent plastic content by weight. some human remains, biological samples, hypodermic needles and cultures will be burned. Biological wastes will be sterilized by autoclave method prior to final disposal into the incinerator.

3. Applicable Data:

Incinerator Maximum Capacity:	200 lbs/hr
Weekly Load:	900 lbs
Time per Burn:	4 hr
Burns per Week:	10
Operation Period:	8 hr/day

4. Emission data from attached report:

Particulates = 0.001 lb/lb of waste

5. Emission Calculations:

Particulates = 0.001 lb/lb of waste x 100 lb of waste
= 0.10 pounds per 100 pounds of waste

6. Maximum EQB allowable emission of particulate matter = 0.4 lb/100 lbs of refuse charged, Rule 405.

7. Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution; Incineration, Rule 405.

Emission Calculations:

$$Particulates\left(\frac{lbs}{yr}\right)$$

$$= \frac{7\ lbs}{ton} * \frac{22.5\ lbs}{hr} * \frac{1\ ton}{2000\ lbs} * \frac{8\ hr}{day} * \frac{5\ days}{wk} * \frac{52\ wks}{year}$$

$$= 164.32\ \frac{lbs}{yr}$$

$$CO\left(\frac{lbs}{yr}\right)$$

$$= \frac{10\ lbs}{ton} * \frac{22.5\ lbs}{hr} * \frac{1\ ton}{2000\ lbs} * \frac{8\ hr}{day} * \frac{5\ day}{wk} * \frac{52\ wk}{year}$$

$$= 234\ \frac{lbs}{yr}$$

$$NO_x\left(\frac{lbs}{yr}\right)$$

$$= \frac{3\ lbs}{ton} * \frac{22.5\ lbs}{hr} * \frac{1\ ton}{2000\ lbs} * \frac{8\ hr}{day} * \frac{5\ day}{wk} * \frac{52\ wk}{year}$$

$$= 70.2\ \frac{lbs}{yr}$$

EMISSION RATES FOR SPRAY PAINT BOOTH SYSTEM OPERATIONS

Process Equipment Description: Spray Paint Booth System (Camp Moscrip)

Process Information:

Worst Case Scenario High VOC Paint	VOC-84%
Maximum paint usage: Operation Frequency:	3 gal/day 6 hr/day 12 months/yr

GRAY PRIMER PAINT DENSITY		84.00% VOC 8.660 LB/GAL
*Naptha		5.01%
*Xylenes(O-,M-,P- Isomers		12.30%
*Acetone		15.35%
*Toluene		8.15%
*Propane		18.88%
*Isobutane		7.43%
*N-Butane		4.64%
*Solids		28.24%
	TOTAL	100.00%
*VOCs		

Emissions from the above operation are estimated using a high volume low pressure (HVLP) spray paint gun which reduces the VOC emissions by 50% (see enclosed literature) and the addition of solvent in a ratio of 1/8 gallon (.13 gal) to 1 gallon of paint.

Process Emission Calculations:

WORST CASE: HIGH VOC PAINT 84%

Emission (paint) = max usage paint, gal/day X density, lb/gal X VOC X sprayer eff.

= 3 gal/day X 8.66 lb/gal X .84 X .50

= 10.91 lb/day

Note: Emissions from the addition of solvent to dilute the paints have been calculated for turpentine. Thinner dope may also be used as a solvent but higher emissions result using turpentine instead of thinner. This is due to the high turpentine density (7.2 lb/gal) compared to 6.5 lb/gal for thinner dope.

VOC turpentine = 99%, VOC thinner = 100%

Emission (turp) = 3 gal paint/day X 1 gal turp/8 gal paint X 7.2 lb/gal X .99 X .50

= 1.41 lb/day

Total Emission = Emission Paint + Emission Solvent

= 12.25 lb/day

Maximum EQB allowable volatile organic compound (VOC) emission rate = 3 lb/hr and/or 15 lbs/day, Rule 419.

Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution; Volatile Organic Compounds (VOC's), Rule 419.

EMISSION RATES FOR TOUCH UP PAINTING ON P-3 AIRCRAFT, HANGAR 200

Process Equipment Description: Aircraft Tough Up Painting on U.S. Navy P-3 Aircraft

Process Information:

Maximum Paint Usage Rates:	0.25 gal/day 0.25 gal/hr
Operation Frequency:	1 hr/day 3 days/week 12 months/year

Paint Ingredients:		%
BASE, BLACK, POLYURETHANE PAINT DENSITY		65.70% VOC 8.657 LB/GAL
Methyl Ethyl Ketone (2-Butanone)		15.00%
2-Ethoxyetyl Acetate (Cellosolve Acetate)		25.00%
Ethyl Acetate		15.00%
Non-aqueous Solution		45.00%
	TOTAL	100.00%
CATALYST, BLACK, ISOCYANATE PAINT DENSITY:		71.30% VOC 7.631 LB/GAL
Methyl Ethyl Ketone (2-Butanone)		40.00%
Toluene		5.00%
2-Ethoxyetyl Acetate (Cellosolve Acetate)		20.00%
1,6-Diisocyanatohexane (Hexamethylene Diisocyanate)		0.20%
Biuret of 1,6 Hexamethylene Diisocyanate		34.80%
	TOTAL	100.00%

Emissions from the above operation equipment are estimate based on complete evaporation of all volatile organic compounds (VOC's).

The following calculations are based on maximum usage rates per day per type of paint.

Process Emission Calculations:

VOC's Emitted	Emissions		
	lbs/hr	lbs/day	lbs/yr
VOC's from Base, Black, Polyurethane	1.42	1.42	204.75
VOC's from Catalyst, Black, Isocyanate	1.36	1.36	195.88

Maximum EQB allowable volatile organic compound (VOC) emission rate = 3 lb/hr and/or 15 lbs/day, Rule 419.

Emissions are in compliance with EQB Regulations for the Control of atmospheric Pollution: Volatile Organic compounds (VOC's), Rule 419.

EMISSION RATES FOR SPRAY PAINT BOOTH SYSTEM OPERATIONS AT BLDG 1673

Process Equipment Description: Spray Paint Booth System

Process Information:

Maximum Paint Usage Rates:	1.25 gal/24 hr 0.41 gal/hr
Paint spg: Paint Density: Operation Frequency:	0.933 7.778 lb/gal 8 hr/day 4 days/week 12 months/year

Paint Ingredients:		Max %
Polyurethane Paint (Catalyst)		71.10% VOC
2-Butanone (Methyl Ethyl Ketone)		40.00%
Xylenes (O-,M-,P-Isomers)		5.00%
2-Ethyl Acetate ((Cellosolve Acetate)		20.00%
Hexamethylene Diisocyanate Monomer		2.00%
Biuret of 1,6 Hexamethylene Diisocyanate		34.80%
	TOTAL	101.80%
Polyurethane Paint (Catalyst)		55.60% VOC
2-Butanone (Methyl Ethyl Ketone)		8.00%
2-Ethoxyetyl Acetate (Cellosolve Acetate)		18.00%
Ethyl Acetate		6.00%
Lead Chromate		30.00%
Non-Aqueous Solution		38.00%
	TOTAL	100.00%

Emissions from the above operation equipment are estimate based on complete evaporation of all volatile organic compounds (VOC's).

Process Emission Calculations:

VOC's Emitted	Emissions		
	lbs/hr	lbs/day	lbs/yr
2-Butanone (Methyl Ethyl Ketone)	0.29	2.33	448.04
Xylenes (O-,M-,P-Isomers)	0.03	0.24	46.67
2-Ethoxyetyl Acetate (Cellosolve Acetate)	0.23	1.85	354.70
Ethyl Acetate	0.04	0.29	56.00
TOTALS:	0.59	4.72	905.41

Maximum EQB allowable volatile organic compound (VOC) emission rate = 3 lb/hr and/or 15 lbs/day, Rule 419.

Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution: volatile organic compounds (VOC's), Rule 419.

EMISSION RATES FOR QUARRY OPERATIONS AT VIEQUES

Process Equipment Description:
- Blasting
- Drilling
- Crushers (Primary & Secondary)
- Truck Unloading/Loading
- Stock Piling
- Unpaved Haul Roads

Equipment:	Jaw Crusher (Primary)	Hydrocone Crusher (Secondary)
Model:	545P	736 A-C Hydrocone
Serial Number	502121	537163
Capacity:	75 ton/hr design	75 ton/hr design
Power Source	Electric motor 230/460 volts 45 KVA, 3 phases, 40 mps, 60 Hertz	Electric motor 230/460 volts 120 KVA, 3 phases, 60 Hertz

Process Information:

Production Rates:	30,000 tons/year 21.43 tons/hr
Operation Frequency:	7 hr/day 5 days/week 10 months/year

Emissions from the above process equipment are estimated based on the following factors obtained from the U.S. Environmental Protection Agency Publication AP-42, Volume 1, Fourth Edition; Table 8.19.2-1 and Table 8.19.2-2.

Process		Emission factor (lbs/ton)	
Blasting			(See calculations below)
Crushing:	Primary (Wet)	0.0180	
	Secondary (Wet)	0.0180	
Quarrying Drilling:	(Dry)	0.0800	(See note below)
Batch Drop:	Truck Unloading	0.0003	
	Truck Loading	0.0003	
Stock Piling			(See calculations below)
Unpaved Haul Roads			(See calculations below)
	TOTAL	0.1166	

Notes:
(1) Wet material factors selected since operation emissions are automatically controlled by a sprinkler system located at all break points. Material is wet without runoff.
(2) Dry Drilling Estimated: 100 times wet factor from Table 8.19.2-2
(3) Drilling is performed 3 hours a day.

Process Emission Calculations;

Process Emissions (Ep) = Production Rate * Emission Factor
EP = 3,498.0 lb/year 2.499 lb/hr
E = k(5.9) (s/12) (S/30) (W/3) ** 0.7 (w/4) ** 0.5 (365-p/365) lb/VMT

Where:

E	=	Emission Factor
k	=	particle size multiplier
s	=	silt content of road surface material (%)
S	=	mean vehicle speed (mph)
W	=	mean vehicle weight (ton)
w	=	mean number of wheels
p	=	number of days with at least 0.01 in. of precipitation per year
VMT	=	vehicle mileage travelled

The following data is used for the unpaved road emission calculations:

k = particle size multiplier (Table Sec. 11.2.1-2)	0.80
s = silt content of road surface material (%)	30.00 % (See Note)
S = mean vehicle speed (mph)	5 mph
W = mean vehicle weight (ton)	10 tons
w = mean number of wheels	12 wheels
p = # days w/@ least 0.01 in. of precipitation/year	50 days/year (Note)

Note: Data from previous years surveys.

VMT = Yearly Production Rate/Load per Trip * Miles per Trip (miles/year)

Where:

Load per trip	=	5 tons
Miles per trip	=	0.50 miles

VMT = 3,000 miles/year

Unpaved Roads Emission Calculations:

Ef = k(5.9) (s/12) (S/30) (W/3) ** 0.7 (w/4) ** 0.5 (365-p/365) lb/VMT

Emission Factor (EF) = 6.828 lb/VMT

Unpaved Road Emissions (Er) = Emission Factor (Ef) * Vehicle Mileage Travelled (VMT)

ER = 20,485 lb/year   14.63 lb/hr

Stock Piling Wind Erosion Emissions: Section 11.2.3

Es = 1.7 (s/1.5) ((365-p)/235) (f/15) lbs/day/acre

Where :

f	=	% time wind exceeds 12 mph @ mean pile height
Estimated f	=	10.00 %
Stock pile area	=	1.00 acres

Es = 30.38 lbs/day/acre = 30.38/lbs day

Es = 9,114.89 lbs/year = 1.27 lbs/hr

Total Suspended Particle = 961 * A ** 0.8/(D ** 1.8 * M ** 1.9) (lb/blast)

Where:

A	=	Area Blasted (SQFT)[50 * 20]	1,000.00
D	=	Depth of Blast (FT)	15.00
M	=	Moisture content (%)	1.50
Blast Rate	=	Blast per month	1.00

Eb = 3,984.12 lbs/blast = 3,984.12 lbs/month

Eb = 39,841.21 lbs/year = 28.46 lbs hour

Note: Blasting operation is performed once a month; therefore, hourly rate does not apply.

Total Emission Calculations:

Total Emissions (Et) = Process (Ep) + Unpaved Road (Er) + Stockpiling (Es)

Et = 33,098.34 lb/year   18.40 lb/hr

Maximum EQB allowable particulate matter emission rate = 29.68 lb/hr.

Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution; Visible Emissions, Rule 403; Fugitive Dust, Rule 404: and Process Sources, Rule 407.

EMISSION RATES FOR ASPHALT PLANT OPERATIONS AT VIEQUES

Process Equipment Description:
- Aggregate Proportioning System
- Rotating Drum Dryer
- Asphalt Heater
- Blending System
- Surge System
- Baghouse (Emission Control Device)

Equipment:	Drum Dryer	Asphalt Heater
Manufacturer:	Hauck Mfg. Co.	
Model:	SJ150 (Burner)	N/A
Serial Number:	880576	N/A
Capacity:	22.7 MBTU/hr	148 KW/hr
Power Source:	Fuel Burning	Fuel Burning

Process Information:

Production Rates:	10,000 tons/year 7.14 tons/hr
Operation Frequency:	7 hr/day 5 days/week 10 months/year

Fuel Burning Equipment	Diesel Fuel Consumption Rate	Liq. Petroleum Gas Rate
Rotating Drum Dryer (Full Cap)	165.00 gal/hr	21,830 cu ft/hr (optional)
Asphalt Heater	2.20 gal/hr	N/A
Power Generator[1]	6.00 gal/hr	N/A

[1]Power Generator calculations are presented in Attachment B

Fuel Sulfur Content (%) = 0.40

Emission Discharge Volume = 13,000 CUFT/Minute
780,000 CUFT/hr

Emissions from the above process equipment are estimated based on the following factors obtained from the U.S. Environmental Protection Agency Publication AP-42, Volume 1, Fourth Edition; Table 8.1-1, Table 8.1-3, and Table 8.1-4.

Asphalt Plant Stack Emissions, Table 8.1-1

Material Emitted	Emission Factor
Particulate	0.2740
Sulfur Oxides (S = %S in Fuel)	0.2920 [1] S
Nitrogen Oxides	0.0360
Volatile Organic Compounds	0.0280
Carbon Monoxide	0.0380
Polycyclic Organic Matter	0.000026
Aldehydes	0.0200
Formaldehyde	0.00015
2-Methylpropanol (isobutylpropanol)	0.0013
1-Butanol (n-butylraldehyde)	0.0024
3-Methylbutanal (isovaleraldhyde)	0.0160

Baghouse Emission Factors, Table 8.1-3

Control Equipment	Particulates (lb/ton)
Baghouse	0.020

Potential Uncontrolled Emission Factors, Table 8.1-4

Operation	Particulates, lb/ton
Unloading aggregate to storage bins	0.100
Cold & dried aggregate elevators	0.200
Screening hot aggregate	0.026

Process Emission Calculations:

Process Emissions = **Production Rate * Emission Factor**

*Asphalt Plant Stack Emissions, Table 8.1-1

Material Emitted	Emissions (lbs/hr)	(lbs/yr)
Particulate	1.9571	2,740.00
Sulfur Oxides (S=%S in Fuel)	0.8343	1,168.00
Nitrogen Oxides	0.2571	360.00
Volatile Organic Compounds	0.2000	280.00
Carbon Monoxide	0.2714	380.00
Polycyclic Organic Matter	0.0002	0.26
Aldehydes	0.1429	200.00
Formaldehyde	0.0011	1.50
2-Methylpropanol (isobutylpropanol)	0.0093	13.00
1-Butanol (n-butylraldehyde)	0.0171	24.00
3-Methylbutanal (isovaleraldhyde)	0.1143	160.00

Particulate Emissions @ Stack:

Particulate = 2.51E-06 lbs/CUFT Discharge Emissions

Baghouse Emissions from Table 8.1-3

Control Equipment	Particulates (lb/hr)	(lb/yr)
Baghouse	0.143	200.00

* Potential Uncontrolled Emissions from Table 8.1-4

Operation	Particulates (lb/hr)	(lb/yr)
Unloading aggregate to storage bin	0.714	1,000.00
Cold & dried aggregate elevator	1.429	2,000.00
Screening hot aggregate	0.186	260.00

Total Particulate Emissions:

Total Particulate Emissions (Ep) = Process Stack (Es) + Uncontrolled (Eu)

Ep = 4.29 lb/hr   6,000.00 lb/yr

Maximum EQB allowable particulate matter emission rate = 13 lb/hr, Rule 407.
Maximum EQB allowable particulate matter emission rate = 0.08 grains/dry std CUFT, Rule 407 [0.08 grains = 1.14 * 10 E-5 pounds = 0.0052 grams]

Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution; Visible Emissions, Rule 403; Fugitive Dust, Rule 404; Process Sources, Rule 407; and Asphaltic Concrete Batching Plants, Rule 408.

EMISSION RATES FOR DRY CLEANING FACILITIES

Equipment Description: Dry Cleaning System I (Old)
Solvent type: Perchloroethylene

Equipment:	Dry Washing Machine	Dryer	Cooker
Manufacturer: Model: Serial Number:	VIC Mfg. Co. 59 ML 70326110-2	VIC Mfg. Co. 225-6M 70127010-6	VIC Mfg. Co. 161M

Equipment Description: Dry Cleaning System II (New)
Solvent type: Perchloroethylene

Equipment:	Dry to Dry Cleaning System
Manufacturer: Model: Serial Number:	Multimatic Corp. Shop Star 300 44-1190-4320

Emissions from both systems were estimated from U.S. Environmental Protection Agency Publication AP-42, Compilation of Air Pollutant Emission Factors. System I is interconnected and the three components (washer/dryer/cooker) work as a combined operational unit. System II is a close refrigerated system which has no vents. 98% of the used solvent is reclaimed.

From Table 4.1-1, Solvent Loss Emission Factors for Dry Cleaning Operations, the following factors were obtained:

Source	Emission Rate (lb/100 lbs)
System I	
Washer/Dryer/Cooker	8.0
Filter Disposal Cooker Muck	1.3
Still Reside Disposal	1.6
Miscellaneous	1.5
Total	12.4
System II (Well Controlled)	
Washer/Dryer/Cooker	0.3
Cooked Muck	0.9
Cartridge Filter	0.8
Still Reside Disposal	1.0
Miscellaneous	1.0
Total	4.0

Emission Calculations:

Data	System I	System II	Units
Weight of Perchloroethylene:	13.5		lb/gal
Quantity of Solvent Used:	330.0	110.0	gal/year
Hours of Operation:	2.0	8.0	hr/day
	5.0	5.0	days/week
	52.0	52.0	weeks/year
Emission Rates:	12.4	4.0	lb/100 lb

Maximum Emission Allowed by EQB = 3 lb/hr or 15 lb day

Calculations:

System I:

$$\frac{(330 \text{ gal/yr})\ (13.5 \text{ lb/gal})\ (12.4 \text{ lb/100 lbs})}{(52 \text{ wk/yr})\ (5 \text{ day/wk})\ (2 \text{ hr/day})} = 1.0623 \text{ lb/hr}$$

$$(1.0623 \text{ lb/hr})\ (2 \text{ hr/day}) = 2.13 \text{ lb/day}$$

System II:

$$\frac{(110 \text{ gal/yr})\ (13.5 \text{ lb/gal})\ (4 \text{ lb/100 lbs})}{(52 \text{ wk/yr})\ (5 \text{ day/wk})\ (8 \text{ hr/day})} = 0.0286 \text{ lb/hr}$$

$$(0.0286 \text{ lb/hr})\ (8 \text{ hr/day}) = 0.2284 \text{ lb/day}$$

Total Emissions = 1.0909 lbs/hr or 2.3584 lbs/day

Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

	Source	Control	Characteristics
1	Dry to Dry Cleaning System Multimatic Corp. Mode Shop Star 300	close system, refrigerated, filtering cartridges	35-pound capacity; uses Perchloroethylene solvent at a rate of 110 gal/yr
2	Dry to Dry Cleaning System Multimatic Corp. Mode Shop Star 300	close system, refrigerated, filtering cartridges	35-pound capacity; uses Perchloroethylene solvent at a rate of 110 gal/yr
* Dry Cleaning Systems			

EMISSION RATES FOR DRY CLEANING FACILITIES

Equipment Description:

Equipment:	Dry Cleaning System I	Dry Cleaning System II
Manufacturer:	Multimatic Corp.	Multimatic Corp.
Model:	Shop Star 300	Shop Star 300
Serial Number:	44-0101-4385	44-1190-4320
Solvent Type:	Perchloroethylene	Perchloroethylene

Emissions from both systems were estimated from U.S. Environmental Protection Agency Publication AP-42, Compilation of Air Pollutant Emission Factors. Systems I and II are close refrigerated systems which have no vents. 98% of the used solvent is reclaimed.

From Table 4.1-1, Solvent Loss Emission Factors for Dry Cleaning Operations, the following factors were obtained:

Source	Emission Rate (lb/100 lbs)
Systems I and II (Well Controlled)	
Washer/Dryer/Cooker	0.3
Cooked Muck	0.9
Cartridge Filter	0.8
Still Reside Disposal	1.0
Miscellaneous	1.0
Total	4.0

Emission Calculations:

Data	System II	Units
Weight of Perchloroethylene:		lb/gal
Quantity of Solvent Used:	110.0	gal/year
Hours of Operation:	8.0	hr/day
	5.0	days/week
	52.0	weeks/year
Emission Rates:	4.0	lb/100 lb

Maximum Emission Allowed by EQB = 3 lb/hr or 15 lb day

Calculations:

System I:

$$\frac{(110 \text{ gal/yr})\ (13.5 \text{ lb/gal})\ (4 \text{ lb/100 lbs})}{(52 \text{ wk/yr})\ (5 \text{ day/wk})\ (8 \text{ hr/day})} = 0.0286 \text{ lb/hr}$$

$$(0.0286 \text{ lb/hr})\ (8 \text{ hr/day}) = 0.2285 \text{ lb/day}$$

Total Emissions (two systems) = 0.572 lbs/hr or 0.4568 lbs/day
Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

CALCULATIONS OF EMISSION RATES FOR HOT FIRE TRAINING PIT BY BLDG 827

Equipment Description: Approx. 50 Ft. Diameter Pit with Embedded Rock
Fuel Storage Tank
Oil Water Separator

Emissions from the above equipment are estimated from the U.S. EPA Agency Publication AP-42, Section 1.3 with the following assumption: fuel combustion calculations based on boiler's operation.

Emission Factors for Fuel Oil Combustion, Table 1.3.1.

Parameter	Factor (lbs/1000 gal)	
Particulate Matter	2	
Sulfur Dioxide (SO2);{S=%wt.=%wt. Sulfur}	142	1
Sulfur Trioxide (SO3);S=%wt.Sulfur}	2	S 1
Carbon Monoxide (CO)	5	S
Nitrogen Oxide (NO)	20	
Volatile Organic Compounds (VOC):		
Non-Methane	0.340	
Methane	0.216	

The following data is used for the emission calculations:

a)	Fuel:	JET FUEL (JP-5)
	Heat of Combustion:	18,300 BTU/lb
	Density @ 80 F:	6.90 lb/gallon
	Fuel Sulfur:	0.40 % Maximum
b)	Fire Rate:	50.00 gallons/hour
c)	Yearly Fuel Average Consumption:	2,400 gallons/year

Emission Calculations:

Parameter		Emissions (lbs/hr)[1]	Emissions (lbs/yr)[2]	Emissions (lbs/MBTU)
Particulates		0.100	4.800	0.0158
SO2		2.840	136.320	0.4498
SO3		0.040	1.920	0.0063
CO		0.250	12.000	0.0396
NO		1.000	48.000	0.1584
VOC:	Non-Methane	0.017	0.816	0.0027
	Methane	0.011	0.518	0.0017

Note: [1]Maximum emissions at any hour of operation, based on fuel consumption.
[2]Emissions based on average hourly fuel consumption.

- EQB maximum allowable particulate matter emissions = 0.30 pounds per MBTU of heat input; Rule 406.
- Emissions are in compliance with EQB Regulations for the Control of Atmospheric Pollution.

PERMITTED STATIONARY EMISSION SOURCES (TANKS - FY 92/93)

	1992/1993			
Permitted Stationary Emission Sources	Pollutant lbs/yr			
	CO	NO_x	VOC	PM
Tanks			24,915.00	
Total Emissions - tons/yr			12.458	

EMISSION CALCULATIONS FOR STORAGE TANK NO. 2270

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		48.00 Feet
3	Tank Diameter (D):		125.00 Feet
4	Average Vapor Space Height (H)	[h/2]	24.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,405,95 Gallons
8	Throughput per year (TP)		4 Gallons
9	Turnover per year (N)	[TP/V]	7,157,63
10	Turnover Factor (Kn)	[Fig 4.3-7]	4
			1.62
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 2,103.07 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 334.98 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,438.05 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 2271

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		48.00 Feet
3	Tank Diameter (D):		125.00 Feet
4	Average Vapor Space Height (H)	[h/2]	24.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,405,954 Gallons ✓
8	Throughput per year (TP)		14,488.646 Gallons
9	Turnover per year (N)	[TP/V]	3.29
10	Turnover Factor (Kn)	[Fig 4.3-7]	1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb = 2,103.07 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 678.08 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,781.14 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 2272

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		48.00 Feet
3	Tank Diameter (D):		125.00 Feet
4	Average Vapor Space Height (H)	[h/2]	24.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,405,95 Gallons
8	Throughput per year (TP)		4 Gallons
9	Turnover per year (N)	[TP/V]	9,610.66
10	Turnover Factor (Kn)	[Fig 4.3-7]	2
			2.18
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 2,103.07 **lb/year**

Working Loss (**lb/year**):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 449.78 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,552.85 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 2273

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		48.00 Feet
3	Tank Diameter (D):		125.00 Feet
4	Average Vapor Space Height (H)	[h/2]	24.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,405,95 Gallons
8	Throughput per year (TP)		4 Gallons
9	Turnover per year (N)	[TP/V]	6,219,86
10	Turnover Factor (Kn)	[Fig 4.3-7]	2
			1.41
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 2,103.07 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 291.09 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,394.16 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 2274

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		48.00 Feet
3	Tank Diameter (D):		125.00 Feet
4	Average Vapor Space Height (H)	[h/2]	24.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,405,954 Gallons
8	Throughput per year (TP)		14,412,530 Gallons
9	Turnover per year (N)	[TP/V]	3.27
10	Turnover Factor (Kn)	[Fig 4.3-7]	1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 2,103.07 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 674.51 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,777.57 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 429

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		13.10 Feet
3	Tank Diameter (D):		53.50 Feet
4	Average Vapor Space Height (H)	[h/2]	6.55 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	220,271 Gallons
8	Throughput per year (TP)		30,109,286 Gallons
9	Turnover per year (N)	[TP/V]	136.69
10	Turnover Factor (Kn)	[Fig 4.3-7]	0.4

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb = 97.99 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 563.65 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 661.63 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 1995

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		No. 2 Fuel, Diesel Marine Fuel (DMF)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.012 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		40.00 Feet
3	Tank Diameter (D):		135.00 Feet
4	Average Vapor Space Height (H)	[h/2]	20.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,282,58 Gallons
8	Throughput per year (TP)		7 Gallons
9	Turnover per year (N)	[TP/V]	8,307,91
10	Turnover Factor (Kn)	[Fig 4.3-7]	4
			1.94
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 1,880.77 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 311.05 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,191.81 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 1996

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		No. 2 Fuel, Diesel Marine Fuel (DMF)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.012 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		87.0 Temp F
	Minimum:		74.0 Temp F
7	Average Change Storage Temperature (dT):		13.0 Temp F

Tank Characteristics:

1	Tank Type:	Above Ground	
2	Tank Height (h):		40.00 Feet
3	Tank Diameter (D):		135.00 Feet
4	Average Vapor Space Height (H)	[h/2]	20.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	4,282,587 Gallons
8	Throughput per year (TP)		19,475,954 Gallons ✓
9	Turnover per year (N)	[TP/V]	4.55
10	Turnover Factor (Kn)	[Fig 4.3-7]	1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 1,880.77 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 729.18 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 2,609.95 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 83

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		No. 2 Fuel, Diesel Marine Fuel (DMF)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.012 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		100.00 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	1,174,921 Gallons
8	Throughput per year (TP)		10,025,550 Gallons
9	Turnover per year (N)	[TP/V]	8.53
10	Turnover Factor (Kn)	[Fig 4.3-7]	1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 308.28 **lb/year**

Working Loss **(lb/year):**

Lw = 2.4*10E-5***Mv*P*V*N*Kn*Kc**

Lw = 375.36 **lb/year**

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 683.59 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 82

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		No. 2 Fuel, Diesel Marine Fuel (DMF)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.012 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		134.50 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	2,125,461 Gallons
8	Throughput per year (TP)		17,706,676 Gallons
9	Turnover per year (N)	[TP/V]	8.33
10	Turnover Factor (Kn)	[Fig 4.3-7]	1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb = 514.71 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 662.94 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 1,177.65 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 1080

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		No. 2 Fuel, Diesel Marine Fuel (DMF)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.012 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		100.00 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	1,174,92 Gallons
8	Throughput per year (TP)		1 Gallons
9	Turnover per year (N)	[TP/V]	4,667,38
10	Turnover Factor (Kn)	[Fig 4.3-7]	2
			3.97
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 308.23 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 174.75 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 482.98 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 1082

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		No. 2 Fuel, Diesel Marine Fuel (DMF)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.012 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		100.00 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	1,174,92 Gallons
8	Throughput per year (TP)		1 Gallons
9	Turnover per year (N)	[TP/V]	3,913,25
10	Turnover Factor (Kn)	[Fig 4.3-7]	8
			3.33
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 308.23 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 146.51 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 454.74 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 84

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		12.90 Feet
3	Tank Diameter (D):		88.00 Feet
4	Average Vapor Space Height (H)	[h/2]	6.45 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	586,859 Gallons
8	Throughput per year (TP)		1,014,25 Gallons
9	Turnover per year (N)	[TP/V]	8
10	Turnover Factor (Kn)	[Fig 4.3-7]	1.73
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 229.97 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 47.47 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 277.43 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 85

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		100.00 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	1,174,92 Gallons
8	Throughput per year (TP)		1 Gallons
9	Turnover per year (N)	[TP/V]	3,536,28
10	Turnover Factor (Kn)	[Fig 4.3-7]	8
			3.01
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb = 358.79 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 165.50 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 524.28 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 381

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		100.00 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	1,174,92 Gallons
8	Throughput per year (TP)		1 Gallons
9	Turnover per year (N)	[TP/V]	4,873,85
10	Turnover Factor (Kn)	[Fig 4.3-7]	2
			4.15
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb = 358.79 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 228.10 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 586.88 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 1084

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		20.00 Feet
3	Tank Diameter (D):		100.00 Feet
4	Average Vapor Space Height (H)	[h/2]	10.00 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	1,174,921 Gallons
8	Throughput per year (TP)		24,100,928 Gallons
9	Turnover per year (N)	[TP/V]	20.51
10	Turnover Factor (Kn)	[Fig 4.3-7]	1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 358.79 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 1,127.92 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 1,486.71 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

EMISSION CALCULATIONS FOR STORAGE TANK NO. 1088

1. Emissions calculated in accordance with the U.S. Environmental Protection Agency Publication AP-42, Fourth Edition, Section 4.3-2, equations 1, 2, and 3. The following data was used for emissions calculations:

Fuel Characteristics:

1	Fuel Type:		Jet Fuel (JP-5)
2	Molecular Weight @ 60 F (Mv):	[Table 4.3-2]	130.00 lb/lbmole
3	Average atmospheric pressure at tank @ 80 F (Pa):		14.70 psia
4	Vapor pressure at liquid condition (P):	[Table 4.3-2]	0.015 psia
5	Product factor (Kc):	[Note 4]	1.000
6	Average Ambient Temperature		
	Maximum:		82.0 Temp F
	Minimum:		80.0 Temp F
7	Average Change Storage Temperature (dT):		2.0 Temp F

Tank Characteristics:

1	Tank Type:	Underground	
2	Tank Height (h):		13.00 Feet
3	Tank Diameter (D):		75.00 Feet
4	Average Vapor Space Height (H)	[h/2]	6.50 Feet
5	Paint Factor (Fp)	[Fig. 4.3-1]	1.00
6	Small Dia. Adjustment Factor (C)	[Fig 4.3-4]	1.00
7	Tank Capacity (V)	[(3.14D^2/4)h*7.48]	429,580 Gallons
8	Throughput per year (TP)		1,218,40 Gallons
9	Turnover per year (N)	[TP/V]	6
10	Turnover Factor (Kn)	[Fig 4.3-7]	2.84
			1

Emission Calculations:

Fixed Roof Tanks

Breathing Loss (lb/year):

Lb = 2.26*10E-2*Mv*{P/(Pa-P)}^0.68*D^1.73*H^0.51*dT^0.5*Fp*C*Kc

Lb= 175.10 lb/year

Working Loss (lb/year):

Lw = 2.4*10E-5*Mv*P*V*N*Kn*Kc

Lw = 57.02 lb/year

Total Loss (lb/year):

Lt = Lb + Lw

Lt = 232.12 lb/year

Emissions are within regulations a delineated by the Commonwealth of Puerto Rico for the control of atmospheric pollution.

1992/1993
Personal Automobile Emission

Privately Owned Vehicles (POVs) (from Security Pass & ID Office)

3500 vehicles with permanent passes
7000 vehicles with temporary passes from 1 to 12 months
320 vehicle with temporary day passes

7000 vehicles/6 months = average of 1,167 vehicles with temporary passes coming onboard daily

Total POV:	3,500	
	1,167	
	320	
	4,987	vehicles coming onboard daily
Assumptions:	20	miles per day per vehicle
		240 days per year
	20	miles per gallon fuel

Calculations:

$$\frac{4{,}987\ veh}{day} * \frac{20\ miles}{veh} * \frac{240\ days}{year} = \frac{23{,}937{,}600\ miles}{yr}$$

Personal Automobile Emission

From: Table 1.1.1B, AP42 Vol. II
Exhaust Emission Rates for low altitude light duty gasoline powered vehicles at 50 Km/hr

(assuming an average model year to be = 1989)

	1990 Emission rate (gm/mile)
CO	7.321
NO_x	0.900
HC (VOC)	0.659

$$CO: \frac{23{,}937{,}600 \textit{ miles}}{\textit{year}} * \frac{7.307 \textit{ gr}}{\textit{mile}} = \frac{174{,}912{,}043 \textit{ gr}}{\textit{year}}$$

$$174{,}912{,}043 \textit{ gr} * \frac{1 \textit{ lb}}{454 \textit{ gr}} * \frac{1 \textit{ ton}}{2000 \textit{ lb}} = 193 \textit{ ton/yr} \quad :CO$$

***NO_x*: 24 ton/yr**

***VOC*: 23 ton/yr**

	1993 Emission rate (gm/mile)
CO:	7.310
NO_x:	0.895
HC(VOC):	0.653

$$CO: \frac{23{,}937{,}600 \text{ miles}}{\text{year}} * \frac{7.307 \text{ gr}}{\text{mile}} = \frac{174{,}910{,}000 \text{ gr}}{\text{year}}$$

$$174{,}910{,}000 \text{ gr} * \frac{1 \text{ lb}}{454 \text{ gr}} * \frac{1 \text{ ton}}{2000 \text{ lb}} = 193 \text{ ton/yr}$$

NO_x: 24 ton/yr
VOC: 23 ton/yr

Emission from Aircraft

From: Air Ops (Chief Kinsey)
Aircraft operations for CY 93 = 72,188
Aircraft operations for CY 92 = 77,500

Approximate landing/take off cycles = ½ aircraft operations
CY 93 cycles = 36,094
CY 92 cycles = 38,750

Aircraft Usage Rate		Emission Factor (lb/cycle)			
Type	Usage Rate	CO	NO_x	VOC	PM
C-5	5%	82.12	79.60	28.08	4.12
C-141	20%	92.40	19.20	87.68	3.00
C-130	22%	32.36	9.6	20.28	4.36
P-3	20%	32.36	9.6	20.28	4.36
F-14	10%	39.88	7.62	17.36	24.24
A-4/A-6	15%	16.62	2.15	1.10	0.46
H-3	5%	13.54	3.02	6.78	0.44
KC-135	3%	220.92	24.64	185.56	31.36

CY 93 EMISSION (LB/YR)					
Type	Cycles (usage rate x total cycles)	CO	NO_x	VOC	PM
C-5	1805	148,227	143,678	50,684	7,437
C-141	7219	667,036	138,605	632,962	21,657
C-130	7941	256,971	76,234	161,044	34,623
P-3	7219	233,607	69,302	146,401	31,475
F-14	3609	116,787	27,501	62,652	87,482
A-4/A-6	5414	89,981	11,640	5,955	2,490
H-3	1805	24,440	5,451	12,238	794
KC-135	1083	239,256	26,685	200,962	33,963
Total Emissions - lbs/yr		1,776,305	499,096	1,272,898	219,921
Total Emissions - tons/yr		888	250	636	110

CY 92 EMISSION (LB/YR)					
Type	Cycles (usage rate x total cycles)	CO	NO_x	VOC	PM
C-5	1938	159,150	154,265	54,419	7,985
C-141	7,750	716,100	148,800	679,520	23,250
C-130	8,525	275,869	81,840	172,887	37,169
P-3	7,750	250,790	74,400	157,170	33,790
F-14	3,875	154,535	29,528	67,270	93,930
A-4/A-6	5,813	96,612	12,498	6,394	2,674
H-3	1,938	26,241	5,853	13,140	853
KC-135	1,163	256,930	28,656	215,806	36,472
Total Emissions - lbs/yr		1,936,227	535,840	1,366,606	236,123
Total Emissions - tons/yr		968	268	683	118

Cost in $K to correct deficiencies:

Air Program:

Permit Fee: FY 95 . . . . $41/ton of pollutant
FY 96 . . . . $48/ton of pollutant
FY 97 . . . . $50/ton of pollutant
FY 98 . . . . $53/ton of pollutant
FY 99 . . . . $56/ton of pollutant

Pollutant	Ton/yr	95	96	97	98	99
PM-10	1.31	54	63	66	69	73
CO	4.94	203	237	247	262	277
NO_x	22.34	916	1072	1117	1184	1251
VOCs	15.60	640	749	780	827	874
	44.19	1,813	2,121	2,210	2,342	2,475
+20% for small tanks and misc sources		2,176	2,545	2,652	2,810	2,970
+5% for Vieques		2,285	2,672	2,785	2,951	3,119
+20% for HAP monitoring/controls			3,206	3,342	3,541	3,743

OTHER MOBILE EMISSION SOURCES (FY92/93)

Other Mobile Emission Sources	1992/1993 Pollutant (ton/yr)			
	CO	NO_x	VOC	PM
4-stroke engines tractors (10 units)	0.210	.002	0.019	.0003
2-stroke engines: mower (13 units) trimmer (29 units) power blower (3 units) chain saw (1 unit)	1.692	.006	0.750	0.024
Total Emissions (tons/yr)	1.902	0.008	0.769	0.024

$$\frac{g}{\substack{unit\text{-}year \\ (emissionfactor)}} * x\ units * \frac{lbs}{454\ g} * \frac{ton}{2{,}000\ lb}$$

Ref: AP-42, Vol II, Table II-5-1

Other Mobile Emission Sources	1992/1993 Pollutant (ton/yr)			
	CO	NO_x	VOC	PM
MWR Golf Carts (49)	0.92	0.14	0.08	
Emissions (49 units)(tons/yr)	0.92	0.14	0.08	

$$x\ units * \frac{4\ trips}{unit\text{-}day} * \frac{2.3\ mile}{trip} * \frac{365\ days}{year} * \frac{g}{\substack{mile \\ (emissionfactor)}} * \frac{lbs}{454\ g} * \frac{ton}{2000\ lbs} =$$

Emission Factor: CO = 5.057 g/mile, NO_x = 0.756 g/mile, VOC = 0.463 g/mile

Ref: AP-42, Vol II, Table 1.1.1B

OTHER MOBILE EMISSION SOURCES (FY92/93)

Other Mobile Emission Sources	1992/1993 Pollutant (ton/yr) CO	NO$_x$	VOC	PM
Light-Duty Vehicles/Trucks				
Vehicles (187)	12.441	1.876	1.142	
Trucks (325)	23.572	2.929	2.059	
Heavy-duty, diesel-powered				
Track-type tractor (6)	0.393	1.425	0.138	0.127
Motor grader (4)	0.137	0.635	0.032	0.056
Wheeled loader (4)	0.247	0.803	0.108	0.073
Track-type loader (1)	0.083	0.340	0.041	0.024
Roller (2)	0.377	0.809	0.060	0.048
Miscellaneous (170)	13.500	32.360	2.968	2.644
Total Emissions (tons/yr)	49.75	41.177	6.548	2.972

Light-Duty Vehicles/Trucks calculations:

$$x\ units * \frac{x\ miles}{unit\text{-}year} * \frac{g}{\underset{(emission factor)}{mile}} * \frac{lbs}{454\ g} * \frac{tons}{2000\ lbs}$$

Ref: AP-42, Vol II, Table 1.1.1B

Heavy-duty, diesel-powered equipment calculations:

$$\frac{x\ gal}{yr} * \frac{lb}{\underset{(emission factor)}{10^3\ gal}} * \frac{ton}{2000\ lbs}$$

Ref: AP-42, Vol II, Table II-7.1

Other Mobile - NMCB - Construction Equipment
Ref: AP-42, Vol. II
Table II-7.1 - Emission Factors for Heavy-Duty
Diesel-Powered Construction Equipment Emission Factor Rating

	1992/1993			
Other Mobile Emission Sources	Pollutant (ton/yr)			
	CO	NO_x	VOC	PM
NMCB Construction Equipment				
Wheeled tractor (7)	0.07	0.13	0.02	
Scrapers (3)	0.23	0.69	0.05	0.07
Motor graders (3)	0.43	2.05	0.12	0.18
Wheel loaders (19)	18.26	60.33	7.98	5.49
Track loaders (25)	1.63	6.69	0.79	0.47
Off-highway truck (6)	8.61	20.00	0.92	1.23
Rollers (6)	0.20	0.56	0.04	0.03
Miscellaneous (37)	17.53	43.91	3.95	3.61
[1] Trucks (82)	28.08	56.43	10.54	
Emissions (56 units)(tons/yr)	75.04	190.79	24.41	11.08

$$\frac{x\ hr}{yr} * \underset{(emission\ factor)}{\frac{lb}{hr}} * \frac{ton}{2000\ lbs}$$

[1] Ref: AP42, Vol II, Table 1.7.1

ATTACHMENT
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Supplemental Information for
Item 6a

AIR POLLUTION

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
AIR EMISSIONS SURVEY - PHASE I - SOURCE IDENTIFICATION	IT CORP N62470-92-D-7520	LANTDIV	MAR93	20AUG93	$71,150	PA	
AIR EMISSIONS SURVEY - PHASES II & III - DATA COLLECTION AND PERMIT PREPARATION	IT CORP N62470-92-D-7520	LANTDIV	15DEC93	SEP94 (EST)	$285,032	PA	
AIR EMISSIONS SAMPLING ASPHALT PLANT, VIEQUES	LORENZO IGLESIAS AND ASSOC N62470-92-M-2622	LOCAL	28SEP93	15APR94 (EST)	$10,675	O&M	

HAZARDOUS WASTE

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
HAZARDOUS WASTE MINIMIZATION SURVEY	NEESA	LOCAL	N/A	APR94	$40,000	O&M	
HAZARDOUS WASTE MANAGEMENT PLAN	MALCOLM PERNIE N62470-92-D-6204	LOCAL	18DEC92	APR94 (EST)	$50,600	O&M	
OIL & HAZARDOUS SUBSTANCE SPILL CONTINGENCY PLAN	MALCOLM PERNIE N62470-92-D-6204	LOCAL	18DEC92	APR94 (EST)	$78,000	O&M	-
CLOSURE BLDG 121, OLD PESTICIDE SHOP	OHM N62470-93-C-3199	LANTDIV	NOV93	MAR94	$375,000	NECA O&M	
HW MINIMIZATION PLAN	MALCOLM PIRNIE	LOCAL	APR94 (EST)	SEP94 (EST)	$50,000 (EST)	O&M	

WATER

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
WATER TREATMENT PLANT EVALUATION	BAKER (WESTON) N6470-89-D-4814	LANTDIV	OCT91	APR94 (EST)	$323,000	PA	
UPGRADE WATER TREATMENT PLANT - DESIGN	TBD	LANTDIV	TBD	TBD	TBD	TBD	
UPGRADE WATER TREATMENT PLANT - CONSTRUCTION	TBD	LANTDIV	TBD	TBD	TBD	TBD	

TBD - To be determined

POLYCHLORINATED BIPHENYLS

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
PCB TESTING	CARIBTEC LABORATORIES INC. (PSC)	LOCAL	11 MAY 92	04 AUG 97	FY94 $262K FY95 $273K FY96 $281k	O&M	FACILITIES SERVICE CONTRACT WITH FOUR OPTION YEARS.
PCB DISPOSAL	DLA 200-92-D-0086 TRANS CYCLE INDUSTRIES, INC.	LOCAL (DRMO)	25 SEP 92	25 SEP 94	FY93 $343K FY94 $362K	O&M	FSC WITH BASE PERIOD AND ON OPTION YEAR
PCB DISPOSAL	TBD	LOCAL (DRMO)	AUG 94	SEP 97	TBD	O&M	CONTRACT OUT FOR BIDS ON 14 MAR 94

TBD - To be determined

WASTEWATER

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
INFILTRATION/INFLOW STUDY - PHASE I - FLOW MONITORING	BAKER ENVIRONMENTAL N62470-89-D-4814	LANTDIV	SEP91	JUN92	$400,000	PA	
INFILTRATION/INFLOW STUDY - PHASE II - SMOKE/DYE TESTING	BAKER ENVIRONMENTAL N62470-89-D-4814	LANTDIV	JUL92	OCT93	$1,345,000	PA	
INFILTRATION/INFLOW REPAIRS- PHASE III - DESIGN	R. KENNETH WEEKS N000389-93-4046	LANTDIV	AUG93	AUG94 (EST)	$375,000	RPMD HOUSING	
INFILTRATION/INFLOW REPAIRS- PHASE IV - CONSTRUCTION	TBD	LANTDIV	AUG94 (EST)	SEP97 (EST)	$4,365,800	RPMD HOUSING	
INDUSTRIAL WASTE SURVEY - FORRESTAL - PHASE I	MALCOLM PERNIE N62470-92-7493	LANTDIV	SEP92	AUG93	$195,400	PA	
INDUSTRIAL WASTE SURVEY - FORRESTAL - PHASE II	MALCOLM PERNIE N62470-92-7493	LANTDIV	JUN93	JAN94	$139,800	PA	DRAFT REPORT RECEIVED OCT 93; PREFINAL, DEC 93
INDUSTRIAL WASTE SURVEY - BUNDY/CAPEHART PHASES I & II	MALCOLM PERNIE N62470-92-7493	LANTDIV	MAR93	NOV93	$177,000	PA	
INDUSTRIAL WASTEWATER MANAGEMENT PLAN	TBD	LANTDIV	AUG94 (EST)	DEC94 (EST)	$225,000	NECA	LANTDIV MAY PREPARE PLAN IN- HOUSE
OILY WASTE/WASTE OIL STUDY- PHASE I - DATA COLLECTION	WILEY & WILSON N62470-92-C-7451	LANTDIV	SEP92	APR93	$78,800	PA	
OILY WASTE/WASTE OIL STUDY- PHASE II - MANAGEMENT PLAN	WILEY & WILSON N62470-92-C-4026	LANTDIV	13OCT93	AUG94 (EST)	$74,000	PA	
OILY WASTE/WASTE OIL STUDY- PHASE III - DESIGN	WILEY & WILSON N62470-92-C-4026	LANTDIV	MAY94 (EST)	FEB95 (EST)	$50,000	PA	

TBD = TO BE DECIDED

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
OILY WASTE/WASTE OIL STUDY-PHASE IV - CONSTRUCTION	TBD	LANTDIV	TBD	TBD	TBD	PA	
STORM WATER SURVEY - PHASE I - MAPPING, INDUSTRIAL ACTIVITY IDENTIFICATION	GANNET FLEMING N62470-92-7488	LANTDIV	FEB93	SEP93	$170,500	PA	
STORM WATER SURVEY - PHASE II - ILLICIT DISCHARGE INVESTIGATION	GANNET FLEMING N62470-92-7488	LANTDIV	FEB93	JAN94	*	PA	*TOTAL FUNDING FOR BOTH PHASES SHOWN UNDER PHASE I
STORM WATER SURVEY - PHASE III - STEP II'S	GANNET FLEMING N62470-92-7488	LANTDIV	31MAR94 (EST)	SEP94 (EST)	$103,000	NECA	
STORM WATER SURVEY - PHASE IV POLLUTION PREVENTION PLAN	GANNET FLEMING N62470-92-7488	LANTDIV	31MAR94 (EST)	SEP94 (EST)	*	NECA	*TOTAL FUNDING FOR BOTH PHASES III & IV
STORM WATER SURVEY - PHASE V DESIGN	TBD	LANTDIV	TBD	TBD	TBD		
UPGRADE WASTEWATER TREATMENT PLANTS	CARRERA INC N62470-90-C-0189	LANTDIV	APR93	JUL94 (EST)	$9,436,000	MCON	PROJECT IS 75% COMPLETE
REPAIR WATER TREATMENT PLANTS	TBD N62470-93-3206	LANTDIV	AUG94 (EST)	JAN95 (EST)	$488,000	O&M	P-495 FOLLOW ON CONTRACT
SEWER LIFT STATION ALARM/CONTROL PANEL - CONSTRUCTION	FRANCISCO LEVY N62470-91-1221	LANTDIV	23SEP92	30APR94 (EST)	$639,900	O&M	PROJECT IS 95% COMPLETE. O&M MANUALS AND
REPAIR /UPGRADE SANITARY SEWER LIFT STATIONS - CONSTRUCTION	WALLACE O"CONNER N26470-92-2242	LANTDIV	30SEP93	MAR95 (EST)	$1,361,800	PA O&M	INCLUDES INSTALLATION OF EMERGENCY GENERATORS
DESIGN ANALYSIS AND OMSI PREPARATION	METCALF & EDDY N62470-93-C-4078	LANTDIV	30SEP93	AUG96 (EST)	$1,250,000	O&M	
MODIFY DESIGN OF EXISTING SEPTIC TANKS	WILEY & WILSON	LANTDIV	24SEP93	SEP94 (EST)	$50,000 (EST)	O&M	

TBD = TO BE DECIDED

SOLID WASTE

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
PRELIMINARY LANDFILL CLOSURE PLAN	MALCOLM PERNIE N62470-91-D-6675	LOCAL	6APR93	APR94 (EST)	$34,966	O&M	COMPLETION PENDING DISCUSSION OF FINAL REPORT WITH CONTRACTOR
ENGINEERING AND ECONOMICS FEASIBILITY STUDY, SOLID WASTE MGMT ALTERNATIVES	PATTON, HARRIS, RUST & ASSOC N62470-91-D-6675	LANTDIV	OCT92	20APR94	$200,000	PA	NAVY OWES COMMENTS ON PREFINAL OF 9 MAR BY 25 MAR
ENVIRONMENTAL IMPACT, STATEMENT	THE ENVIRONMENTAL COMPANY N62470-90-D-7696	LANTDIV	OCT92	OCT94 (EST)	$200,000	PA	
NEW SANITARY LANDFILL	MILCON PROJECT 504		FY 96		$12,200K	MCON	
SANITARY CLOSURE PLAN			FY 99				
PALLET DISPOSAL		LOCAL	FY 95		20,000	O&M	CONTRACT HAS NOT BEEN FINALIZED YET.

SPILL PREVENTION CONTROL & COUNTERMEASURES

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
SPCC CORRECTIVE ACTIONS - DESIGN	ARMOUR CAPE & POND N62470-93-D-4033	LANTDIV	15 APR 94	13 DEC 94	$500,000	NECA	
SPCC CORRECTIVE ACTIONS - CONSTRUCTION	TBD	LANTDIV	OCT94 (EST)	SEP96 (EST)	$2,500,000	NECA & O&M	
CONSTRUCT BERM FOR TANKS 85 & 1088 - DESIGN	VILLATE & ASSOC N00389-92-D-6227	LOCAL	26SEP93	SEP94 (EST)	$23,000	NECA	DESIGN IS 90% COMPLETE; SCOPE IS BEING REVISED
CONSTRUCT BERM FOR TANKS 85 & 1088 - CONSTRUCTION	TBD	LANTDIV	DEC94 (EST)	JUL95 (EST)	$800,000	NECA	

TBD - To be determined

UNDERGROUND STORAGE TANKS

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
UST CORRECTIVE ACTIONS - DESIGN	TBD	LANTDIV	OCT94 (EST)	OCT97 (EST)	$500,000 (EST)	NECA O&M	NAVSTA DEVELOPING STEP II; ECD JUL94
UST CORRECTIVE ACTIONS - CONSTRUCTION	TBD	LANTDIV	OCT95 (EST)	DEC98 (EST)	$2,500,000	NECA O&M	
CONSTRUCTION OF CLOSURE 6 UST'S	N62470-92-B-2247	LANTDIV	TBD	TBD	$700,000 (EST)	NECA	AWAITING EVALUATION OF BIDDERS FOR QUALIFICATIONS.
INTERIM FREE-PRODUCT REMOVAL AT TOW WAY FUEL FARM	TERRA VAC N00389-92-D-6257	LOCAL	15SEP93	SEP98 (EST)	$400,000	DERA	CONTRACT HAS 4 OPTION YEARS
INSTALL CORROSION PROTECTION ON FUEL TANKS - DESIGN	N62470-94-B-2489 TBD	LOCAL	OCT93	MAY94 (EST)	$27,000	O&M	DESIGN 90% COMPLETE
INSTALL CORROSION PROTECTION AND FUEL TANKS - CONSTRUCTION	TBD	LOCAL	SEP94 (EST)	JUL95 (EST)	$230,000	O&M	
UPGRADE UST AT NEX INDUSTRIAL GAS STATION - DESIGN	N62470-93-D-4034 DAMES & MOORE	LANTDIV	15 APR 94	AUG94 (EST)	$275,000	NEX	SCOPE OF WORK BEING PREPARED
UPGRADE UST AT NEX INDUSTRIAL GAS STATION - CONSTRUCTION	TBD	LANTDIV	SEP94 (EST)	MAY 95 (EST)	$700,000	NEX	
CHARACTERIZATION OF LEAKING UST'S	N62470-93-D-4021 BLASHLAND, BOUCK AND LEE	LANTDIV	24 SEP 93	AUG 98	$3,000,000	DERA	$600K PER YEAR; THIS IS A 5-YEAR CONTRACT

TBD - To be determined

NATURAL RESOURCES

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
SEA TURTLE CONSERVATION PROJECT, VIEQUES	DNR	LOCAL (MOA)	SEP89	SEP95 (EST)	$100,000	O&M	INITIAL MOA WAS SIGNED IN 89; RENEWED IN 92 AND 93
VIEQUES WILDLIFE MANUAL	FISH AND WILDLIFE SERVICE	LOCAL (MOA)	APR91	MAR94 (EST)	$25,000	O&M	MANUAL IS BEING PRINTED
VIEQUES MANGROVE MANUAL	DNR	LOCAL (MOA)	JUN92	MAR94 (EST)	$25,000	AGRCLTRL	MANUAL IS BEING PRINTED
MANATEE VIEWING TOWER AND BOARDWALK	DNR	LOCAL (MOA)	SEP92	JUN94 (EST)	$70,000	LEGACY	DRAWINGS COMPLETED DNR IS OBTAINING PERMITS
BOARDWALK, VIEQUES	DNR	LOCAL (MOA)	SEP92	JUN94 (EST)	$40,000	O&M	DRAWINGS COMPLETED DNR IS OBTAINING PERMITS
MANATEE TELEMETRY STUDY	FISH AND WILDLIFE SERVICE	LOCAL (MOA)	MAY93	SEP95 (EST)	$80,000	LEGACY	FWS PERSONNEL WILL COME IN APR TO CONTINUE PROJECT
ROCK ART STUDY, VIEQUES	R. CHRISTOPHER GOODWIN & ASSOC, INC	LANTDIV	AUG93	SEP94 (EST)	$20,000	LEGACY	CONTRACTOR PERFORMED FIELD WORK IN FEB 94
ARCHEOLOGICAL SURVEY NAVSTA ROOS RDS	R. CHRISTOPHER GOODWIN & ASSOC, INC	LANTDIV	AUG93	SEP94 (EST)	$100,000	LEGACY	CONTRACTOR PERFORMED FIELD WORK IN FEB 94
LOS MACHOS MANGROVE RESTORATION PROJECT	GEO-MARINE, INC	LANTDIV	AUG93	AUG94 (EST)	$153,000	O&M LEGACY AGRCLTRL	AERIAL PHOTOS WERE TAKEN
VIEQUES LUMP UPDATE	GEO-MARINE, INC	LANTDIV	AUG93	MAR95 (EST)	$140,000	O&M	PROJECT IS STILL PENDING FOR AERIAL PHOTOS NEEDED TO UPDATE MAPS

INSTALLATION RESTORATION

ITEM	CONTRACT # CONTRACTOR	LANTDIV/ LOCAL	AWARD DATE	DATE COMPL	COST	TYPE FUNDING	REMARKS
REMEDIATION IR SITES 15 & 16	METCALF & EDDY N47408-92-3042	LANTDIV	30SEP93	MAY94 (EST)	$2,675,690	DERA	
PRE-INVESTIGATION CORRECTIVE MEASURES	BAKER ENVIRONMENTAL N62470-89-D-4814	LANTDIV	NOV93	JUL94 (EST)	$130,000	DERA	FOR SWMU'S; 4 TASKS - SCREENING REPORT, SITE MGMT PLANS, SURVEYING, TRC MEETINGS

ATTACHMENT
H

Supplemental Information for
Item 8d

There are fourteen (14) Airfield Safety criteria waivers in effect on U.S. Naval Station, Roosevelt Roads. Nine of them are for structures with sensitive communication equipment towers, antennas, and radars. These are TV towers, a microwave tower, an AN/FPN-63 Radar/Tower, AFWTF Link II towers, four (4) antennas at North Delicias Hill, a collimation tower, a tower at South Delicias Hill and some camera poles, and an Automated Imagery Control System (AISCS) at the Airfield Security Fence.

There are three waivers for microwave installations on buildings, one for the existence of a mangrove forest, one for a hill that is a natural obstruction, and one for the E-28 arresting gear.

AIRFIELD SAFETY CRITERIA WAIVERS
U.S. Naval Station, Roosevelt Roads

Waiver No.	Description
Airfield Safety Waiver RR-1	Permits the continued use of Bldg. T6-8 interim Fire and Crash Station until a new facility is completed.
Airfield Safety Waiver RR-2	Permits use of Bldg. 256 at its present location as a microwave installation.
Airfield Safety Waiver RR-4	Permits construction of a collimation tower (Structure 779) which projects approximately 47 ft. above the airfield inner horizontal surface elevation 188 ft. mean sea level (MSL) (approved BuWeps ltr Ser 344:REH of 22 Sep 65).
Airfield Safety Waiver RR-5	Hill constituting a natural obstruction to flight approach to Runway 07/25 located approximately 4600 ft. from the 07 end of the runway and 1150 ft. from the centerline extended; all as shown in PW Dwg No. 4742. The hill and any obstructions thereon are to be marked in accordance with current obstruction marking and lighting criteria (approved NAVAIR ltr 17 Apr 70).
Airfield Safety Waiver RR-6	Permits construction of four antennas located on North Delicias Hill, which penetrate the inner horizontal surface as follows: IHS = 188 ft. MSL (approved NAVAIR ltr 14 Sep 72).

Ant. No.	Location	Top Elev.	Ht above IHS
1	450' outboard Rwy 07 3650 SE Rwy 07	376.5 ft.	188.5 ft.
2	610" outboard Rwy 07 3930' SE Rwy 07	375.3 ft.	187.3 ft.
3	475' outboard Rwy 07	351.5 ft.	163.5 ft.
4	495' outboard Rwy 07	389.7 ft.	201.7 ft.

Note: The information in the above waiver has been updated to reflect the following changes;

a. Runway 06-24 changed to Runway 07-25.
b. Datum used for top of tower heights is 0.0 ft. MSL.
c. Runway elevation is 38 ft. MSL with Datum of 0.0 ft. MSL.

AIRFIELD SAFETY CRITERIA WAIVERS U.S. Naval Station, Roosevelt Roads	
Waiver No.	Description
Airfield Safety Waiver RR-7	Permits the installation of AFWTF Link 11 Antenna System located approximately 3900 ft. east of the centerline of closed runway 17-35 and approximately 6200 ft. outboard of the Runway 35 end. The 133 ft. tower (top elevation 282 ft. MSL) will penetrate the Station inner horizontal surface by 94.0 ft. (approved NAVAIR ltr Air 40122A of 8 Oct 74).
Airfield Safety Waiver RR-8	Permits the placement of an E-28 Arresting Gear System located at 2800 ft. inboard from the threshold end of Runway 25 (approved NAVAIRSYSCOM 9 Sep 76).
Airfield Safety Waiver RR-9	Permits the installation of an AN/FPN-63 Radar and tower located 350 ft. south of the centerline of Runway 07-25 and 4625 ft. inboard the threshold end of Runway 25 (approved - NAVAIRSYSCOM 10 Feb 85).

AIRFIELD SAFETY CRITERIA WAIVERS
U.S. Naval Station, Roosevelt Roads

Waiver No.	Description
Airfield Safety Waiver RR-10	Permits installation of a 70 ft. high television tower (top elevation 405 ft. MSL) to be located 3650 ft. east of the Runway 07-25 centerline and 320 ft. (scaled) outboard the threshold end of Runway 07. The tower violates the 150 ft. inner horizontal surface by 217 ft. (approved NAVAIRSYSCOM ltr 11000 Ser Air-41062A/468 of 13 Aug 85).
Airfield Safety Waiver RR-11	To permit the RCA Microwave Tower, overall heights of 318 ft. MSL, to be located 3500 ft. (scaled) outboard the Runway 7 threshold and 5300 ft. south of the Runway 7-25 centerline.
Airfield Safety Waiver RR-12	To permit the location of a 110 ft. high tower on South Delicias Hill, approximately 5,300 ft. from the end of the runway, the applicable requirements of NAVFAC P-80.3 are waived provided the elevation of the highest point of the tower and anything on it is no greater than 301 ft. above MSL.
Airfield Safety Waiver RR-13	To permit the continued existence of a mangrove forest at the end of Runway 25 the applicable requirements of NAVFAC P-80.3 are waived provided all legal means are taken to remove and to prevent further intrusion of these obstructions and, if they are destroyed by nature, all legal means are taken to prevent a recurrence.
Airfield Safety Waiver RR-14	To permit: a. A tower mounted camera 740 ft. southeast of Runway 7 and about 2,400 ft. inboard from the threshold, provided it is no higher than 12 ft. above the nearest runway elevation. b. A tower mounted camera 740 ft. southeast of Runway 07 and about 3,000 ft. inboard from the threshold, provided it is no higher than 17 ft. above the nearest runway elevation. c. A tower mounted camera 560 ft. southeast of Runway 25 and about 900 ft. inboard from the threshold, provided it is no higher than 11 ft. above the nearest runway elevation.

AIRFIELD SAFETY CRITERIA WAIVERS U.S. Naval Station, Roosevelt Roads	
Waiver No.	Description
Airfield Safety Waiver RR-14 (continued)	d. A tower mounted camera 285 ft. southeast of Runway 25 and about 800 ft. inboard from the threshold, provided it is no higher than 11 ft. above the nearest runway elevation. e. A tower mounted automated imagery control system (AICS) unit 980 ft. northwest of the Runway 07 centerline and about 1,900 ft. inboard from the threshold, provided it is no higher than 134 ft. above the transition surface. f. A tower mounted AICS unit 730 ft. southeast of the Runway 25 centerline and about 1,900 ft. inboard from the threshold, provided it is no higher than 17 ft. above the nearest runway elevation, the applicable requirements of NAVFAC P-80.3 are waived.
Airfield Safety Waiver RR-15	To permit South Delicias Hill and the existing structures on it to be above the inner horizontal surface and to permit the addition of communications towers and antennas, the applicable requirements of NAVFAC P-80.3 are waived provided no part of any structure is higher than 112 ft. above the inner horizontal surface nor closer than 5,300 ft. from the runway centerline.

ATTACHMENT
I

Supplemental Information for
Item 8j

TABLE 6.2.1

PROPOSED STRUCTURAL BMP's

OUTFALL & LOCATION	RECOMMENDED CONTROLS
Outfall 001 - BLDG 826 AIROPS	Construct a valved concrete spill containment structure for the 200-gallon unleaded gasoline task.
Outfall 001 - BLDG 1625 Helicopter Wash Pad	Provide portable spill sump and tarpaulin for storage of 55-gallon drums of aircraft cleaning compound.
Outfall 001 - BLDG 379 AIMD	Provide portable spill sump and tarpaulin for temporary storage of POL supply drums. Provide anchors for the deployment of floating booms at strategic locations along the concrete drainage channel beside Leyte Drive.
Outfall 001 - BLDG 460 Pumphouse	Construct a valved concrete spill containment structure for the 300-gallon diesel fuel tank.
Outfall 002 - Airfield Fueling Pits	Provide permanent spill containment kits in the fueling area consisting of a metal storage trunk that contains absorbent rolls for protecting storm sewer drop inlets; absorbent sheets and granular absorbent material for spill removal; appropriate cleanup equipment including shovels, brooms, dustpans, face shields, chemical resistant gloves, aprons and boots. Empty 55-gallon drums should be provided for the collection and disposal of spent sorbent materials. Provide spill containment and removal capability in the fueling pit area by installing spill control valves and access sumps on storm drains at strategic locations.
Outfall 002 - BLDG 1984 Satellite Hazardous Waste Accumulation Area	Provide portable spill sump and tarpaulin for temporary storage of POL supply drums adjacent to the hazardous waste accumulation area.
Outfall 002 - BLDG 1967 Missile Equip. Maint. (AFWTF)	Construct a valved concrete spill containment structure for two 300-gallon diesel fuel tanks.
Outfall 002 - BLDG 825	Provide a chemically resistant portable spill sump for storage of 5-gallon sulfuric acid cans.
Outfall 002 - BLDG 201 Auto Hobby Shop/Toyland	Ensure drain valve is provided for the POL containment structure.

TABLE 6.2.1 (Continued)
PROPOSED STRUCTURAL BMP's

OUTFALL & LOCATION	RECOMMENDED CONTROLS
Outfall 002 - BLDGs 1973, 2009 and 2021 DRMO	Provide portable spill sumps and tarpaulins with the capacity to temporarily store up to 140 55-gallon drums of regulated and/or non-regulated waste. Provide a permanent spill containment kit in the drum storage area consisting of a metal storage trunk that contains absorbent rolls for protecting the storm sewer drop inlet near BLDG 1973; absorbent sheets and granular absorbent material for spill removal; appropriate cleanup equipment including shovels, brooms, dustpans, face shields, chemical resistant gloves, aprons, boots and respirators. Empty 55-gallon drums should be provided for the collection and disposal of spent sorbent materials. Install spill control valve on the 18" diameter outlet pipe from the storm drain manhole located in front of the northeast corner of BLDG 1973.
Outfall 002 - Near BLDG 377 Garbage Truck Storage and Maintenance Area	Provide portable spill sumps and tarpaulins for temporary storage of POL supply drums. Ensure that all scrap metal bins are covered. Provide a curbed concrete vehicle washpad for the new garbage truck maintenance area after relocation has occurred. The washpad should drain to a sediment trap and oil/water separator and be connected to the sanitary sewer system.
Outfall 002 - Tanks 1995, 1996 Aboveground JP-5 Storage Tanks	The spill control valves should be moved outside of the containment berms. This will eliminate the necessity of using a boat to access the valve controls after a heavy rain.
Outfall 010 - Tanks 82-85, 1080, 1082, 1088 Bulk Fuel UST Form	Replace the spill control gates for the two bermed containment areas.
Outfall 013 - BLDG 2297, 2298, 2299 Army Reserve Compound	Move 55-gallon drums of paint solids, waste grease and waste cleaning compound into the existing containment area when final acceptance of the newly constructed Hazmat storage area has been approved.

TABLE 6.2.1 (Continued)
PROPOSED STRUCTURAL BMP's

OUTFALL & LOCATION	RECOMMENDED CONTROLS
Outfall 013 DRMO Scrapyard	Continue the present sampling program to determine if soils and ground water contamination exists in the scrap materials storage area (IR Site 10). RCRA corrective action is already required in this area by the EPA. Provide cover and containment for the spent battery storage area.
Outfall 015 - BLDG 31 Public Works Compound	Construct curbed and roofed concrete storage structures for POL storage, regulated hazardous waste storage and non-regulated waste storage. Ensure that all scrap metal bins are covered. Transformers and other electrical equipment should be stored in a covered containment area. The scrap equipment stored behind BLDG 31 should be disposed of or placed in a covered containment area. Various machine components are leaking lubricating fluids and oils onto the ground. Vehicle batteries (spent or new) should be stored in a covered containment area. Construct a curbed concrete containment pad for the vehicle/equipment wash area. The containment area should drain to a sediment trap and oil/water separator and be connected to the sanitary sewer system.
Outfall 015 - BLDG 124 Fuels Industrial Gas Station	Construct a valved concrete containment structure for the bulk fuel transfer ports adjacent to BLDG 124.
Outfall 015 - Near BLDG 3102 Hazmat Drum Storage Area	Construct a curbed concrete storage pad with a roof and drain valve for storage of Hazmat supply drums.
Outfall 015 - BLDG 3102 NMCB Storage	Construct a curbed concrete storage pad with a roof and drain valve for storage of regulated and non-regulated wastes.
Outfall NR-010 - BLDG 53 Cold Storage Warehouse	Ensure that a drain valve is provided for the 300-gallon diesel fuel tank containment area.

TABLE 6.2.1 (Continued)
PROPOSED STRUCTURAL BMP's

OUTFALL & LOCATION	RECOMMENDED CONTROLS
Outfall NR-014 - BLDG 2042 Supply Storage Services	Construct a new concrete containment structure for transformer storage or move equipment to a suitable storage location.
Outfall NR-016 - Seal Compound Boat Slip (Abandoned Side)	Remove discarded scrap materials (vehicles, heavy equipment parts, tires) from wooded area on the abandoned side of boat slip area.
Outfall NR-017 - BLDG 27 Area GSJC Warehouse (Supply)	Construct a curbed concrete containment pad with a roof and drain valve for storage of 55-gallon Hazmat supply drums. Provide portable spill sumps with tarpaulins for temporary storage of 55-gallon hazardous waste drums.
Outfall NR-020 - BLDG 1788 Public Works Warehouse	Provide a portable spill sump with tarpaulin for storage of 30- and 55-gallon waste drums.
Outfall NR-020 - BLDG 3188 NMCB,	Spent vehicle batteries should be stored in a covered containment area. Ensure that scrap metal bins are covered.
Outfall NR-021 - BLDG 976 Area Hose Rack Shed (Fuels)	Construct a valved concrete containment structure for the 300-gallon diesel fuel tank.
Outfall NR-023 - BLDG 39 Wastewater Pump Station	Construct a valved concrete containment structure for the 300-gallon diesel fuel tank.
Outfall NR-026 - BLDG 520 NEX Gas Station	Spent vehicle batteries should be stored in a covered containment area. Containment and roofing should be provided for the outdoor lube oil servicing area behind the NEX Gas Station building.
Outfall NR-029 Capehart WWTP	Provide a portable spill sump with tarpaulin for storage of 55-gallon cationic polymer drums.
Outfall SF-004 Marina	Provide drain valves for two 1,000-gallon fuel tank containment areas.

TABLE 6.2.1 (Continued)
PROPOSED STRUCTURAL BMP's

OUTFALL & LOCATION	RECOMMENDED CONTROLS
Outfall SF-017 - BLDGs 787 and 792 NSWU Maintenance Shop and Warehouse	Provide portable spill sumps with tarpaulins for storage of 55-gallon hazardous waste drums.
Outfall SF-018 - BLDG 38 Hazardous Waste Storage	Provide portable spill sumps with tarpaulins for storage of non-regulated 55-gallon waste drums.
Outfall SF-019 - BLDG 870 Marine/Ocean Engineering	Provide portable spill sump with tarpaulin for storage of 55-gallon POL drums.
Outfall SF-019 - BLDGs 2007 and 2279 Maint. A/C Spare and MOE	Move 55-gallon drums of contaminated fuel mixture and unspecified solid waste into existing containment areas.
Outfall SF-021 - BLDG 394 Torpedo Shop	Spent marine batteries should be stored in a covered containment area.
Outfall SF-021 - BLDG 394 Torpedo Shop	Plug the open drain ports and install drain valves for the containment area in which otto fuel waste materials and liquid cyanide waste drums are handled.
Outfall SF-022 Area East of Pier 3	Modify painting operations so that paint is not sprayed directly into the water at the bulkhead area.

NAVSTA ROOSEVELT ROADS UIC N00389
DATA CALL THIRTY-THREE

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

K. F. DELANEY
NAME (Please type or print)

Kevin F Delaney
Signature

Rear Admiral
Title Commander
Naval Shore Activities
U.S. Atlantic Fleet
Activity

29 JUN 1994
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

RADM ARCHIE CLEMINS
NAME (Please type or print)

Archie Clemins
Signature

Acting
Title Commander in Chief
U.S. Atlantic Fleet
Activity

29 June 1994
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

J. B. GREENE, JR.
NAME (Please type or print)

JB Greene Jr
Signature

ACTING
Title

06 JUL 1994
Date

BRAC-95 CERTIFICATION-DATA CALL THIRTY-THREE

Reference: SECNAVNOTE 11000 of 08 December 1993

In accordance with policy set forth by the Secretary of the Navy, personnel of the Department of the Navy, uniformed and civilian, who provide information for use in the BRAC-95 process are required to provide a signed certification that states "I certify that the information contained herein is accurate and complete to the best of my knowledge and belief."

The signing of this certification constitutes a representation that the certifying official has reviewed the information and either (1) personally vouches for its accuracy and completeness or (2) has possession of, and is relying upon, a certification executed by a competent subordinate.

Each individual in your activity generating information for the BRAC-95 process must certify that information. Enclosure (1) is provided for individual certifications and may be duplicated as necessary. You are directed to maintain those certifications at your activity for audit purposes. For purposes of this certification sheet, the commander of the activity will begin the certification process and each reporting senior in the Chain of Command reviewing the information will also sign this certification sheet. This sheet must remain attached to this package and be forwarded up the Chain of Command. Copies must be retained by each level in the Chain of Command for audit purposes.

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

STEPHEN C.WOOD
NAME (Please type or print)

Stephen C. Wood
Signature

Commanding Officer
Title

20 MAY 94
Date

NAVSTA Roosevelt Roads
Activity

NAVSTA ROOSEVELT ROADS UIC N00389
DATA CALL THIRTY-THREE REVISED PGS 10, ~~39, 42, 53~~

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

J. W. CRAINE, JR. J.W. Craine, Jr.
NAME (Please type or print) Signature

Captain 8/15/94
Title Commander Date
Naval Shore Activities
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

RADM H. W. GEHMAN, JR. H.W. Gehman jr
NAME (Please type or print) Signature

Acting 15 AUG 1994
Title Commander in Chief Date
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

J. B. GREENE, JR.
NAME (Please type or print) Signature

ACTING 19 AUG 1994
Title Date

NAVSTA Roosevelt Roads N00389
Data Call 33, Revised pages 6,18

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

CDR R.C. PARSONS
NAME (Please type or print) Signature

Acting
Title Commander Date 9/25/94
Naval Shore Activities
U. S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

H. H. MAUZ, JR.
NAME (Please type or print) Signature

Admiral 9/27/94
Title Commander in Chief Date
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

P.W. DRENNON
NAME (Please type or print) Signature

Acting 12 OCT 1994
Title Date

DATA CALL 1: GENERAL INSTALLATION INFORMATION

1. ACTIVITY:

- Name

Official name	*U.S. Naval Station Roosevelt Roads, Puerto Rico*
Acronym(s) used in correspondence	NAVSTA Roosevelt Roads
Commonly accepted short title(s)	NAVSTA Roosevelt Roads

- Complete Mailing Address

Commanding Officer
U.S. Naval Station Roosevelt Roads
PSC 1008, Box 3001
FPO AA 34051-3001

- PLAD

NAVSTA ROOSEVELT ROADS PR//

- PRIMARY UIC: 00389 (Plant Account UIC for Plant Account Holders)

Enter this number as the Activity identifier at the top of each Data Call response page.

- ALL OTHER UIC(s): PURPOSE:

44373	Aircraft Intermediate Maintenance Department
35682	Aircraft Squadron Operational Detachment
39236	Navy Exchange
42000	Brig
47216	Security Detachment
68131	Counseling and Assistance Center

Activity: 00389

48672 Family Service Center

42972 Ammunition Support, Vieques

2. PLANT ACCOUNT HOLDER:

- Yes X No ______ (check one)

3. ACTIVITY TYPE:

- HOST COMMAND:
  - Yes X____ No ____ (check one)
- TENANT COMMAND:
  - Yes ____ No X____ (check one)
  - Primary Host (current) UIC: _______
  - Primary Host (as of 01 Oct 1995) UIC: _______
  - Primary Host (as of 01 Oct 2001) UIC: _______
- INDEPENDENT ACTIVITY:
  - Yes _____ No X____ (check one)

4. SPECIAL AREAS:

Name	Location	UIC
Pico del Este	Luquillo, Puerto Rico	00389
U.S. Naval Reservation	San Juan, Puerto Rico	00389
Flamenco Point	Culebra, Puerto Rico	00389
Eastern Maneuver	Vieques, Puerto Rico	00389
Naval Ammunition Support Det	Vieques, Puerto Rico	00389
Crown Mountain	St. Thomas, U.S.V.I.	00389
3D Under Water Tracking Range	St. Croix, U.S.V.I.	00389
St. George Hill	St. Croix, U.S.V.I.	00389
West Annex	Aguadilla, Puerto Rico	00389

5. DETACHMENTS:

Name	UIC	Location	Host name	Host UIC
None				

6. BRAC IMPACT: No, Naval Station, Roosevelt Roads was not affected by BRAC-88,-91 or 93.

7. MISSION: To maintain and operate facilities and provide services and material to support operations of aviation activities and units of the operating forces of the Navy and other activities as designated by the Chief of Naval Operations.

Current Missions

- Provide runway/taxiway/parking/air terminal/admin services to support Class A1 Airfield.

- Provide air terminal services, organizational level maintenance on arresting gear and optical landing system and other visual landing aids; operate and maintain aircraft salvage equipment; perform aircrew duties in support of 7,000 aircraft events monthly; and perform ground electronics.

- Coordinate and schedule port visits for US surface ships and submarines and all foreign military vessels; direct operations of the port; provide service craft maintenance; provide scheduled logistical ferry support to Vieques Island; provide recompression services and mine recovery exercise support; provide search and rescue support; respond to oil spills; operate equipment for oily waste collection.

- Provide intermediate level maintenance for TA-4J, SH-3H and P-3C aircraft, provide limited intermediate maintenance support for E-2, EA-6B, S-3, SH-60, SH-3, C-2, F/A-18, CH-53, C-130, F-14, CH-46 and SH-2 aircraft.

- Provide aircraft and ship refueling/defueling for station and transient aircraft; receive store and distribute petroleum products including motor vehicle fuel.

• Provide ordnance services including armory, small arms firing range and training; serve as trans-shipment point for ordnance; receive maintain and assemble and issue assigned ordnance; provide transportation and storage buildings, provide Armament/Weapons Support Equipment Program (AWSEP) support.

• Provide standard supply service; provide freight terminal service.

• Operate and maintain transient and permanent Bachelor Enlisted Quarters for 1,565 personnel and Bachelor Officer Quarters for 350 personnel in support of station, tenant and USACOM training requirements.

• Provide messing service for approximately 25,000 meals per month.

• Provide Family Service Support and Religious Programs.

• Provide Navy Resale Services.

• Provide Administrative service including disaster preparedness, postal service, civil personnel support, legal service, public affairs, financial management, Navy Occupational Safety and Health (NAVOSH), photographic, interservice support, accounting, plant account, budget, management analysis.

• Provide standard Public Works support.

• Provide Information Service including ADP; operate Naval Air Logistics Command Management Information System.

• Provide Security Service including security guard, installation access, shore patrol, military customs inspections, traffic enforcement, supervise flightline Security Program, harbor control.

• Provide fire protection and prevention services.

• No current mission change as a result of BRAC-88,-91 or-93.

Projected Missions for FY 2001

- To provide support for the following projected tenants:

    - Marine Reserve Center (Tenant) - Construction of a Reserve Training Facility and a vehicle maintenance facility is expected to be completed Spring 94 for the Marine Corp Reserve. The Marine Corps Reserve Center will provide full training for personnel to augment the U.S. Marine Corps in the event of war and/or natural emergency.

    - Special Operating Forces-Naval Special Warfare Unit (Tenant) - Implementation of the Panama Canal Treaty requires removal of NSWU-8 from Panama. NSWU-8 intends to relocate to Roosevelt Roads since it is the only location from which the unit can maintain a forward presence to support the SOUTHCOM mission.

- Fleet Training Group (FTG) & Shore Intermediate Maintenance Activity (SIMA) - NAVSTA Roosevelt Roads is being considered as a potential site for FTG & SIMA. If sited at NAVSTA, Roosevelt Roads, the fleet would have a "one stop shopping" training opportunity.

- None of the above are a result of BRAC-88,-91 or -93.

8. UNIQUE MISSIONS: Naval Station Roosevelt Roads is strategically located in the Caribbean with full air and surface facilities capable of supporting forward deployed operations for most Central or South American contingencies.

Naval Station Roosevelt Roads supports AFWTF (tenant command) whose mission directly supports unique training, Research Development Test and Evaluation (RDT&E), and Foreign Military Sales (FMS) by providing four(4) component, fully capable ranges. These include:

- Inner range - Only location in the world where U.S. Naval Forces can rehearse an amphibious exercise with live-fire (Naval gunfire, air-to-ground, artillery, mortars) and real fire support coordination on a Amphibious Task Force/Landing Force level.

- Underwater Tracking Range - located between the islands of St. Croix, U.S.V.I. and Vieques, is large enough to accomodate a multi-submarine, multi-dimensional, battle group sized ASW training exercise.

• Electromagnetic Warfare Range (EWR) - Provides fleet users both a realistic simulated hostile electromagnetic environment for training of fleet electromagnetic warfare teams and a tactical electronic order-of-battle in support of exercises and test. The EWR has simulators located at Pico del Este; Mt. Pirata, Vieques; and St. George Hill, St. Croix, U.S.V.I. Simulators provide coverage to portions of the Outer Range and all of the Inner and Underwater Range.

• Outer Range - Utilizes several support sites within the Roosevelt Roads complex including: Range Operations Center, Pico del Este, Puerto Rico and St. Thomas, U.S.V.I. The Outer Range includes over 200,0000 square nautical miles of Special Use Air space allowing support of all types of missile firings.

• The distribution of Naval Station facilities across the islands of U.S.V.I. and Puerto Rico allow for training in opposed choke point operations using small craft and low/slow flyer threats, as part of MEFEX and Battle Group Training, without simulation.

• The above information was extracted from BRAC 93 Data Call 3, Question 1.

Projected Additional/Unique Missions for FY 2001

• North Atlantic Treaty Organization (NATO) - Though some member nations currently use the AFWTF ranges for training, NATO forces do not use them per se. Roosevelt Roads has been identified as a potential candidate for NATO infrastructure support projects.

• Relocatable over the Horizon Radar (ROTHR) - Vieques has been identified as a possible transmitter site for a ROTHR installation which would provide coverage of the key cocaine growing and production areas in South America.

9. IMMEDIATE SUPERIOR IN COMMAND (ISIC):

• Operational name	UIC	
COMNAVSHORLANT ~~Commander in Chief, U. S. Atlantic Fleet~~	68981 ~~00060~~	GB/N44214I 2-14-94
• Funding Source	UIC	
Commander in Chief, U.S. Atlantic Fleet	00060	

Activity: 00389

10. PERSONNEL NUMBERS: Host activities are responsible for personnel numbers for all of their tenant commands, even if the tenant command has been asked to separately report the data. The tenant totals here should match the total tenant count list provided subsequently in this Data Call (see Tenant Activity list). (Civilian count include Appropriated Fund personnel only.)

On Board Count as of 01 January 1994

	Officers	Enlisted	Civilian (Appropriated)
• Reporting Command	48	1052	385
• Tenants (total)	308	1938	431

Authorized Positions as of 30 September 1994

	Officers	Enlisted	Civilian (Appropriated)
• Reporting Command	45	1032	392
• Tenants (total)	308	1907	460

11. KEY POINTS OF CONTACT (POC):

Title/Name	Office	Fax	Home
• CO/OIC Captain Stephen C. Wood	809-865-4444	809-865-4976	809-865-1362
• Duty Officer	809-865-1997	809-865-4976	[N/A]
• Executive Officer CDR William G. Welstead	809-865-4444	809-865-4976	809-865-1287
• Public Works Officer CDR Louis V. Marchette	809-865-4152	809-865-4545	809-865-7902

Activity: 00389

12. TENANT ACTIVITY LIST:

• Tenants residing on main complex (shore commands)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
Atlantic Fleet Weapons Training Facility	0017A	20	74	40
Naval Computer Telecommunication Station	00743	9	135	31
Commander Fleet Air, Caribbean	09003	8	13	4
Patrol Squadron VP-8	09661	60	248	0
Fleet Composite Squadron VC-8	09948	29	176	0
Fleet Imaging Center	30047	0	5	0
Explosive Ordnance Disposal Group 2 Det	30714	1	9	0
2ND NCB Detachment	35182	0	3	0
Naval Legal Service Office Det.	35496	4	3	1
Navy Broadcasting Service Detachment	42021	0	9	0
Personnel Support Activity Detachment	43334	2	35	11
Naval Branch Medical Clinic, Vieques	43680	2	2	0
USCINCLANT (DEPT CFAC)	45099	0	2	0
Tactical Support Center	47229	7	25	0
US Coast Guard Greater Antilles Section	48424	1	0	0
Antisubmarine Warfare Communication Detachment	48846	1	19	0

Activity name	Location	Support function (include mechanism such as ISSA, MOU,etc.)
Martin Marietta Services, Inc.	*NSRR*	*DoD Contract, MMS, Inc. operates and maintains AFWTF ranges, range operations and associated systems. (aprx 360 persons non-appropriated)*
Colsa Corporaton	*NSRR*	*DoD Contract, Colsa develops and maintains systems software. (aprx 40 persons non-appropriated)*
Atlantic Fleet Naval Units	*PROA*	*ASW, NGFS, ATG, surface-to-surface, air-to-air, air-to-surface, EW services, SPECWAR Ops, Minex, SSRNM, battle group Ops, CSSQT and CAS - on range.*
Fleet Marine Forces Atlantic	*PROA*	*CAS, artillery, small arms ranges, amphibious ops, air-to-air, swim ops, ATG, EW services, para drops, and small unit tactics-on range.*
FOREIGN UNITS		
Peruvian Navy	*PROA*	*EW services, ASW, NGFS, surface-to-air, and surface-to-surface-on range.*
Venezuelan Navy	*PROA*	*Amphibious ops, helo assaults, small arms, NGFS, surface-to-air, EW services, and ASW-on range.*
French Marines	*PROA*	*Amphibious ops, small arms, and helo assaults-on range.*
Brazilian Navy	*PROA*	*Surface-to-air and surface-to surface-on range.*
Royal Navy (UK)	*PROA*	*Surface-to-air, EW services, NGFS, surface-to-surface, and ASW-on range.*
Canadian Navy	*PROA*	*ASW, surface-to-air, surface-to-surface, NGFS, EW services-on range.*
Dutch Navy	*PROA*	*Surface-to-surface, surface-to-air, EW services, and ASW-on range.*
German Navy	*PROA*	*Surface-to-air, surface-to-surface, ASW, EW services, and NGFS-on range.*

• Tenants residing on main complex (shore commands) (Con't)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
Defense Commissary Agency	49220	0	17	0
Commander Naval Surface Group	49735	1	2	0
Naval Special Warfare Unit 4	55180	6	18	0
Naval Weapons Station	60701	0	0	10
Naval Criminal Investigative Service Office	63121	0	0	10
Naval Mobile Construction Battalion	63829	21	607	0
Naval Hospital	65428	90	218	95
Naval Oceanography Command Detachment	65877	1	17	0
Marine Corps Security Force Company Detachment	67411	4	108	0
Defense Printing Service Det	68018	0	0	7
Naval Research Laboratory	68104	0	0	0
Naval Education Training Support Center	68322	0	0	2
Naval Dental Center	68445	11	21	3
Naval Reserve Center	68702	2	17	1
Resident Officer in Charge of Construction	68762	8	6	21
Special Boat Unit 20	68975	0	26	0
Antilles Consolidated School System	EPRAN	0	0	170
437th Military Airlift Wing (MAC)	FB44XX	0	2	0
Defense Reutilization and Marketing Office	SY2652	0	0	12
U.S. Army Veterinary Service	W3QM18	1	7	0

12 TENANT ACTIVITY LIST: (Con't)

• Tenants residing on main complex (shore commands) (Con't)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
699th CO, USAG, Fort Buchanan	WRZNAA	2	8	4
390th CO, USAG, Fort Buchanan	WVGQAA	0	4	4
Defense Finance Accounting Service	XDRROOSR DS	0	0	9
Navy Federal Credit Union	None	0	0	0
Navy Relief Society	None	0	0	0
New Hampshire College	None	0	0	0
American Red Cross	None	0	0	0
Central Texas College	None	0	0	0
Banco Popular de Puerto Rico	None	0	0	0
Columbia College	None	0	4	7
U.S. Customs	None	0	0	0
Defense Courier Service	None	0	0	0
McDonald's	None	0	0	0

Activity: 00389

• Tenants residing on main complex (homeported units.)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
COMSOLANT	57061	11	12	0
U.S. Coast Guard	Z76140	6	52	0

• Tenants residing in Special Areas

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
Federal Bureau of Prisons	None	San Juan	0	0	6
Naval Reserve Recruiting Command Det Four	47766	San Juan	0	3	0
U.S. Department of Agriculture	None	San Juan	0	0	6
Food & Drug Administration	None	San Juan	0	0	6
Sea Cadets	None	San Juan	0	0	0
Civil Air Patrol	None	San Juan	0	0	0

• Tenants (Other than those identified previously)

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
None					

13. REGIONAL SUPPORT:

Activity	Location	Support Function (include Mechanism
Defense Logistic Agency, Defense Fuel Supply Center	Alexandria, VA	Base Operating Support (ISSA)
U.S. Department of the Interior (Natl Park Service)	U.S. Virgin Islands	Base Operating Support (ISSA)
U.S. Coast Guard Housing	San Juan, PR	Base Operating Support (ISSA)
General Service Administration	San Juan, PR	Base Operating Support - Maintain and repair GSA Vehicles (ISSA)
CINCLANTFLT OPS Units (Appr 18 Units Yearly)	Various CONUS	Base Operating Support & Aviation
USMC Active & Reserve Units (Appr 8 Units Yearly)	Various CONUS	Base Operating Support & Aviation
USAF Active & Reserve OPS Units (Appr 6 Units Yearly)	Various CONUS	Base Operating Support & Aviation
USA Active & Reserve OPS Units (Appr 12 Units Yearly)	Various CONUS	Base Operating Support & Aviation
Foreign Countries (Ships) (Appr 100 Ships Visits Yearly)	Various Worldwide	Base Operating Support
CINCPACFLT OPS Units (App 4 Units Yearly)	Various	Base Operating Support & Aviation
Private Parties (Approx 8 Units Yearly)	Various CONUS	Base Operating Support & Aviation
Other DOD ACTS/Agencies (Approx 35 Units Yearly)	Various	Base Operating Support & Aviation
Commonwealth of Puerto Rico	Vieques, PR	Provide community assistance, compatible land use, ordnance delivery in Inner Range information and conservation zone protection. (MOU)

13. Regional Support (Con't).

Activity	Location	Support Function (include mechanism
U.S. Security Group Activity	Sabana Seca, PR	Base Operating Service, Civilian Personnel Service and Administrative Support (ISSA)
Virgin Island Army National Guard	U.S.V.I	Base Operating Support-Shipment of Household goods (ISSA)
Second Marine Aircraft Wing	Cherry Point, NC	Base Operating Support (ISSA)
140th Aircraft Control & Warning Squadron	Salinas, PR	Base Operating Support (ISSA)
Readiness Group PR, Second U.S. Army	San Juan, PR	Base Operating Support and Supplies (ISSA)
Military Traffic Management Command	San Juan, PR	Base Operating Support (ISSA)
156th Tactical Group, PRANG	San Juan, PR	Base Operating Support - Stevedoring, Engine Repair Operations, Explosive Ordnance Disposal (ISSA)
National Guard Bureau, OUSPFO	San Juan, PR	Base Operating Support - Supplies maintenance of surface craft (ISSA)
Naval Supply Center	Jacksonville, FL	Base Operating Support - General Supply Service (ISSA)
Headquarters, 4th Weather Wing	Roosevelt Roads, PR	Base Operating Support - Supplies (ISSA)
Naval School of Health Services	San Juan, PR	Base Operating Support (ISSA)
U.S. Military Entrance Processing Command	San Juan, PR	Base Operating Support (ISSA)
PR Air National Guard Mobilization HQTRS	San Juan, PR	Base Operating Support (ISSA)
Aeronautical Systems Division, 4950 Test Wing	Wright Patterson AFB	Base Operating Support (ISSA)
U.S. Marine Corps Reserve (Tenant Spring 94)	San Juan, PR	Base Operating Support (ISSA)
Military Sealift Command	San Juan, PR	Base Operating Support - Stevedoring Terminal Operations (ISSA)

13. Regional Support: (Con't)

Naval Air Test Center	Patuxent River, MD	Base Operating Support - Target hulks, line/mooring (ISSA)
Headquarters, U.S. Army Garrison	FT Buchanan, San Juan	Base Operating Support (ISSA)
Vieques Cattleman Cooperative	Vieques, PR	Land for Grazing cattle (lease)
Municipality of Vieques	Vieques, PR	166.8 ACS for ballfield (License)
PR Port Authority	Aguadilla, PR	Use of Bldg (lease)
PR Aqueduct & Sewage Authority	San Juan, PR	2.2 ACS recreational area
Reserve Officer Beach Club	San Juan, PR	2.2 ACS recreational area (Lease)
PR Aqueduct & Sewage Authority	Vieques, PR	Vieques/Culebra Waterline (Easement)
PR Highway Authority	Roosevelt Roads, PR	Land for PR-53 (Easement)
PR Department of Agriculture	Roosevelt Roads, PR	Land for Fisherman Pier (Lease)
Julio Medina	Roosevelt Roads, PR	Land for grazing cattle (Lease)
GE American Communication	Roosevelt Roads, PR	Land for Satellite/Microwave (Licenses)
Municipality of Vieques	Vieques, PR	14K SQMT land for road (License)
PR Ports Authority	Vieques, PR	Land for Vieques Airport (License)
AEGIS	Roosevelt Roads, PR	Facilities for temporary use (MOA)

14. FACILITY MAPS: This is a primary responsibility of the plant account holders/host commands. Tenant activities are not required to comply with submission if it is known that your host activity has complied with the request. Maps and photos should not be dated earlier than 01 January 1991, unless annotated that no changes have taken place. Any recent changes should be annotated on the appropriate map or photo. Date and label all copies.

• Local Area Map. This map should encompass, at a minimum, a 50 mile radius of your activity. Indicate the name and location of all DoD activities within this area, whether or not you support that activity. Map should also provide the geographical relationship to the major civilian communities within this radius. (Provide 12 copies.)

Provided as Exhibit I - Vicinity/Geographical Site Map with Attachment A Special Areas List of Structures and Exhibit II Local Area Map.

• Installation Map / Activity Map / Base Map / General Development Map / Site Map. Provide the most current map of your activity, clearly showing all the land under ownership/control of your activity, whether owned or leased. Include all outlying areas, special areas, and housing. Indicate date of last update. Map should show all structures (numbered with a legend, if available) and all significant restrictive use areas/zones that encumber further development such as HERO, HERP, HERF, ESQD arcs, agricultural/forestry programs, environmental restrictions (e.g., endangered species). (Provide in two sizes: 36"x 42" (2 copies, if available); and 11"x 17" (12 copies).)

Provided as:	Exhibit III -	Station Map (Structures) w/Attachment B U.S. Naval Station, Roosevelt Roads, List of Structures.
	Exhibit IV -	Station Map, Land Use Map (Restrictive Use Map)
	Exhibit V -	Electromagnetic Radiation Hazards Survey Map
	Exhibit VI -	Station Map of Vieques Island (Structures) See Attachment A
	Exhibit VII -	Land Use Map of Vieques Island (Restrictive Use Areas)

• Aerial photo(s). Aerial shots should show all base use areas (both land and water) as well as any local encroachment sites/issues. You should ensure that these photos provide a good look at the areas identified on your Base Map as areas of concern/interest - remember, a picture tells a thousand words. Again, date and label all copies. (Provide 12 copies of each, 8½"x 11".)

Provided as Exhibit VIII.

• Air Installations Compatible Use Zones (AICUZ) Map. (Provide 12 copies.)

Provided as Exhibit IX - Air Installation Compatible Use Zone Maps.

NAVSTA Roosevelt
N00389

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

In accordance with policy set forth by the Secretary of the Navy, personnel of the Department of the Navy, uniformed and civilian, who provide information for use in the BRAC-95 process are required to provide a signed certification that states "I certify that the information contained herein is accurate and complete to the best of my knowledge and belief."

The signing of this certification constitutes a representation that the certifying official has reviewed the information and either (1) personally vouches for its accuracy and completeness or (2) has possession of, and is relying upon, a certification executed by a competent subordinate.

Each individual in your activity generating information for the BRAC-95 process must certify that information. Enclosure (1) is provided for individual certifications and may be duplicated as necessary. You are directed to maintain those certifications at your activity for audit purposes. For purposes of this certification sheet, the commander of the activity will begin the certification process and each reporting senior in the Chain of Command reviewing the information will also sign this certification sheet. This sheet must remain attached to this package and be forwarded up the Chain of Command. Copies must be retained by each level in the Chain of Command for audit purposes.

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

STEPHEN C.WOOD
NAME (Please type or print)

Stephen C. Wood
Signature

Commanding Officer
Title

2 FEB 94
Date

NAVSTA Roosevelt Roads
Activity

NAVSTA ROOSEVELT UIC N00389

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)	**Signature**
Title	**Date**

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

K. F. DELANEY	Kevin F. Delaney
NAME (Please type or print)	**Signature**
REAR ADMIRAL, U.S. NAVY	3/31/94
Title Commander Naval Shore Activities U.S. Atlantic Fleet	**Date**

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

H. H. MAUZ, JR.	
NAME	**Signature**
ADMIRAL, U.S. NAVY	2/15/94
Title	**Date**

Commander In Chief
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

NAME (Please type or print)	**Signature**

Through administrative error, COMNAVSHORLANT certification obtained after CINCLANTFLT certification.

NAVSTA ROOSEVELT UIC N00389

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

H. H. MAUZ, JR.
NAME Signature

ADMIRAL, U.S. NAVY 2/15/94
Title Date

Commander In Chief
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

S. F. Loftus
Vice Admiral, U.S. Navy
Deputy Chief of Naval
Operations (Logistics)
NAME (Please type or print) Signature

17 FEB 1994

AFWTF Roosevelt Roads BRAC 95 Data Call One (page 9)

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) Signature

Title Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

H.H. MAUZ, JR.
NAME (Please type or print) Signature

ADMIRAL. U.S. NAVY 4/1/94
Title Date
Commander in Chief
U.S. Atlantic Fleet
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

J.B. Greene, Jr.
NAME (Please type or print) Signature

Acting 11 APR 1994
Title Date

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DATA CALL 63
FAMILY HOUSING DATA

Information on Family Housing is required for use in BRAC-95 return on investment calculations.

Installation Name:	NAVSTA Roosevelt Roads PR
Unit Identification Code (UIC):	N00389
Major Claimant:	CINCLANTFLT

Percentage of Military Families Living On-Base:	69.56%
Number of Vacant Officer Housing Units:	0
Number of Vacant Enlisted Housing Units:	0
FY 1996 Family Housing Budget ($000):	$1,932.2
Total Number of Officer Housing Units:	31
Total Number of Enlisted Housing Units:	213

Note: All data should reflect figures as of the beginning of FY 1996. If major DON installations share a family housing complex, figures should reflect an estimate of the installation's prorated share of the family housing complex.

The number of officer and enlisted units reflected above are this activity's share of the family housing assets in the total survey complex, based on data extracted from the FY96 Family Housing Survey (DD Form 1377) and the Current Personnel Summary. These units are not necessarily located at this particular activity. If this activity were to close, the housing assets could still be utilized by other activities located in the survey complex.

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

J. E. BUFFINGTON, RADM, CEC, USN
NAME (Please type or print)

Jack Buffington
Signature

COMMANDER
Title

7/20/94
Date

NAVAL FACILITIES ENGINEERING COMMAND
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

W. A. EARNER
NAME (Please type or print)

W A Earner
Signature

Title

7/25/94
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

In accordance with policy set forth by the Secretary of the Navy, personnel of the Department of the Navy, uniformed and civilian, who provide information for use in the BRAC-95 process are required to provide a signed certification that states "I certify that the information contained herein is accurate and complete to the best of my knowledge and belief."

The signing of this certification constitutes a representation that the certifying official has reviewed the information and either (1) personally vouches for its accuracy and completeness or (2) has possession of, and is relying upon, a certification executed by a competent subordinate.

Each individual in your activity generating information for the BRAC-95 process must certify that information. Enclosure (1) is provided for individual certifications and may be duplicated as necessary. You are directed to maintain these certifications at your activity for audit purposes. For purposes of this certification sheet, the commander of the activity will begin the certification process and each reporting senior in the Chain of Command reviewing the information will also sign this certification sheet. This sheet must remain attached to this package and be forwarded up the Chain of Command. Copies must be retained by each level in the Chain of Command for audit purposes.

I certify the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

THOMAS A. DAMES
NAME (Please type of print)

Rear Admiral, CEC, USN
Title

LANTNAVFACENGCOM
Activity

J.B. Venable
Signature J.B. VENABLE
Acting

JUL 06 1994
Date

ENCLOSURE(2)

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

fr Paulette C. Brown
Name (Please type or print)

for J. R. Grindstaff
Signature

Head, Operations & Projects Branch
Title

7-6-94
Date

Housing Division
Division

Facilities Management
Department

LANTNAVFACENGCOM
Activity

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

J. Richard Grindstaff
Name (Please type or print)

J. Richard Grindstaff
Signature

Head, Requirements & Acquisition Branch
Title

7-6-94
Date

Housing Division
Division

Facilities Management
Department

LANTNAVFACENGCOM
Activity

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

Mark D. Raker
Name (Please type or print)

Mark D. Raker
Signature

Housing Management Specialist
Title

7/6/94
Date

Housing Division
Division

Facilities Management
Department

LANTNAVFACENGCOM
Activity

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

for Moses L. Meadows
Name (Please type or print)

for J. Richard Grindstaff
Signature

Director
Title

7-6-94
Date

Housing Division
Division

Facilities Management
Department

LANTNAVFACENGCOM
Activity

DATA CALL 64

CONSTRUCTION COST AVOIDANCES

Table 1: Military Construction (MILCON) Projects (Excluding Family Housing Construction Projects)

Installation Name:	**ROOSEVELT RDS PR NS**
Unit Identification Code (UIC):	**N00389** #20
Major Claimant:	**LANTFLT**

Project FY	Project No.	Description	Appn	Project Cost Avoid ($000)
1996	504	SANITARY LANDFILL	MCON	11,500
		Sub-Total - 1996		**11,500**
1997	825	BACHELOR ENLISTED QUARTERS	MCON	18,490
1997	980	REL EDUC CEN & CHAPEL ADDN	MCON	2,000
		Sub-Total - 1997		**20,490**
1998	995	TACTICAL SUPPORT CTR	MCON	7,640
		Sub-Total - 1998		**7,640**
1999	143	CIVIL ENGR SPT EQP WAREHSE	MCON	1,400
1999	411	CONTAINER WAREHOUSE	MCON	3,300
		Sub-Total - 1999		**4,700**
2000	754	BACH ENL QTRS REPLACEMENT	MCON	11,500
		Sub-Total - 2000		**11,500**
2001	424	FLT RECREATION/FITNESS CTR	MCON	3,900
2001	509	AIRCRFT DIRECT FUELING STA	MCON	10,500
2001	714	APPROACH LIGHTING	MCON	3,827

DATA CALL 64

CONSTRUCTION COST AVOIDANCES

Table 1: Military Construction (MILCON) Projects (Excluding Family Housing Construction Projects)

Installation Name:	ROOSEVELT RDS PR NS
Unit Identification Code (UIC):	N00389 #20
Major Claimant:	LANTFLT

Project FY	Project No.	Description	Appn	Project Cost Avoid ($000)
2001	755	BACHELOR OFFICER QUARTERS	MCON	10,500
		Sub-Total - 2001		**28,727**
		Grand Total		**84,557**

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

J. E. BUFFINGTON, RADM, CEC, USN
NAME (Please type or print)

Jack E Buffington
Signature

COMMANDER
Title

7/13/94
Date

NAVAL FACILITIES ENGINEERING COMMAND
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

W. A. EARNER
NAME (Please type or print)

W A Earner
Signature

Title

7/18/94
Date

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MARK E. DONALDSON
NAME (Please type or print)

M E Donaldson
Signature

CDR, CEC, USN
Title

12 July 1994
Date

MILCON PROGRAMMING DIVISION
Division

FACILITIES PROGRAMMING AND CONSTRUCTION DIRECTORATE
Department

NAVAL FACILITIES ENGINEERING COMMAND
Activity

Enclosure (1)

BRAC DATA CALL NUMBER 64
CONSTRUCTION COST AVOIDANCE

Information on cost avoidance which could be realized as the result of cancellation of on-going or programmed construction projects is provided in Tables 1 (MILCON) and 2 (FAMILY HOUSING). These tables list MILCON/FAMILY HOUSING projects which fall within the following categories:

1. all programmed construction projects included in the FY1996 - 2001 MILCON/FAMILY HOUSING Project List,

2. all programmed projects from FY1995 or earlier for which cost avoidance could still be obtained if the project were to be canceled by 1 OCT 1995, and,

3. all programmed BRAC MILCON/FAMILY HOUSING projects for which cost avoidance could still be obtained if the project were to be canceled by 1 OCT 1995.

Projects listed in Tables 1 and 2 with potential cost avoidance were determined as meeting any one of the following criteria:

Projects with projected Work in Place (WIP) less than 75% of the Current Working Estimate (CWE) as of 1 OCT 1995 .

Projects with projected completion dates or Beneficial Occupancy Dates subsequent to 31 March 1996.

Projects with projected CWE amount greater than $15M.

The estimated cost avoidance for projects terminated after construction award would be approximately one-half of the CWE for the remaining work. Close-out, claims and other termination costs can consume the other half.

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DATA CALL 64
CONSTRUCTION COST AVOIDANCES

Table 1: Military Construction (MILCON) Projects (Excluding Family Housing Construction Projects)

Installation Name:	**ROOSEVELT RDS PR NS**
Unit Identification Code (UIC):	**N00389**
Major Claimant:	**LANTFLT**

Project FY	Project No.	Description	Appn	Project Cost Avoid ($000)
1994	494	LAND ACQUISITION	MCON	490
		Sub-Total - 1994		**490**
1995	217	ELECTRONIC INSTALLATION	MCON	10,000
		Sub-Total - 1995		**10,000**
1996	504	SANITARY LANDFILL	MCON	11,500
		Sub-Total - 1996		**11,500**
1997	825	BACHELOR ENLISTED QUARTERS	MCON	18,490
1997	980	REL EDUC CEN & CHAPEL ADDN	MCON	2,000
		Sub-Total - 1997		**20,490**
1998	995	TACTICAL SUPPORT CTR	MCON	7,640
		Sub-Total - 1998		**7,640**
1999	411	CONTAINER WAREHOUSE	MCON	3,300
		Sub-Total - 1999		**3,300**
2000	143	CIVIL ENGR SPT EQP WAREHSE	MCON	1,400

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DATA CALL 64
CONSTRUCTION COST AVOIDANCES

Table 1: Military Construction (MILCON) Projects (Excluding Family Housing Construction Projects)

Installation Name:	ROOSEVELT RDS PR NS
Unit Identification Code (UIC):	N00389
Major Claimant:	LANTFLT

Project FY	Project No.	Description	Appn	Project Cost Avoid ($000)
2000	754	BACH ENL QTRS REPLACEMENT	MCON	11,500
		Sub-Total - 2000		**12,900**
2001	424	FLT RECREATION/FITNESS CTR	MCON	3,900
2001	509	AIRCRFT DIRECT FUELING STA	MCON	10,500
2001	714	APPROACH LIGHTING	MCON	3,827
2001	755	BACHELOR OFFICER QUARTERS	MCON	10,500
		Sub-Total - 2001		**28,727**
		Grand Total		**95,047**

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MICHAEL D. THORNTON
NAME (Please type or print)

CDR, CEC, USN
Title

M D Thornton
Signature

9 Dec 94
Date

MILCON PROGRAMMING DIVISION
Division

NAVAL FACILITIES ENGINEERING COMMAND
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

J. E. BUFFINGTON, RADM, CEC, USN	Jack Buffington
NAME (Please type or print)	Signature
COMMANDER	12/9/94
Title	Date

NAVAL FACILITIES ENGINEERING COMMAND
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

W. A. EARNER	W. Earner
NAME (Please type or print)	Signature
	12/17/94
Title	Date

DATA CALL 64

CONSTRUCTION COST AVOIDANCES

Table 2: Family Housing Construction Projects

Installation Name:	**ROOSEVELT RDS PR NS**
Unit Identification Code (UIC):	**N00389** #30
Major Claimant:	**LANTFLT**

Project FY	Project No.	Description	Appn	Project Cost Avoid ($000)
1996	H334	HOUSING OFFICE	FHSG	710
		Sub-Total - 1996		**710**
		Grand Total		**710**

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

J. E. BUFFINGTON, RADM, CEC, USN
NAME (Please type or print)

Jack E Buffington
Signature

7/13/94
Date

COMMANDER
Title

NAVAL FACILITIES ENGINEERING COMMAND
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

W. A. EARNER
NAME (Please type or print)

W A Earner
Signature

Title

7/18/94
Date

BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MARK E. DONALDSON
NAME (Please type or print)

CDR, CEC, USN
Title

MILCON PROGRAMMING DIVISION
Division

FACILITIES PROGRAMMING AND CONSTRUCTION DIRECTORATE
Department

NAVAL FACILITIES ENGINEERING COMMAND
Activity

M E Donaldson
Signature

12 July 1994
Date

Enclosure (1)

BRAC DATA CALL NUMBER 64
CONSTRUCTION COST AVOIDANCE

Information on cost avoidance which could be realized as the result of cancellation of on-going or programmed construction projects is provided in Tables 1 (MILCON) and 2 (FAMILY HOUSING). These tables list MILCON/FAMILY HOUSING projects which fall within the following categories:

1. all programmed construction projects included in the FY1996 - 2001 MILCON/FAMILY HOUSING Project List,

2. all programmed projects from FY1995 or earlier for which cost avoidance could still be obtained if the project were to be canceled by 1 OCT 1995, and,

3. all programmed BRAC MILCON/FAMILY HOUSING projects for which cost avoidance could still be obtained if the project were to be canceled by 1 OCT 1995.

Projects listed in Tables 1 and 2 with potential cost avoidance were determined as meeting any one of the following criteria:

Projects with projected Work in Place (WIP) less than 75% of the Current Working Estimate (CWE) as of 1 OCT 1995 .

Projects with projected completion dates or Beneficial Occupancy Dates subsequent to 31 March 1996.

Projects with projected CWE amount greater than $15M.

The estimated cost avoidance for projects terminated after construction award would be approximately one-half of the CWE for the remaining work. Close-out, claims and other termination costs can consume the other half.