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MAINTENANCE NOTES

ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND

19 March 1976

MAINTENANCE NOTES have been instituted as an informal method of transmitting information of general interest to Public Works Departments. The "Notes" are issued as pertinent information becomes available and should receive wide distribution to all levels of the Public Works Department. Comments and suggestions are invited and ideas for items to be included should be brought to the attention of LANTDIV Code 10. Telephone (804) 444-7121, AUTOVON 690-7121.

SUGGESTED ROUTING:

PWO _____
APWO _____
SHOPS ENGR _____
MCD _____
ADMIN _____
MAINT DIV _____
ENGR DIV _____

CHANGES IN URGENT MINOR CONSTRUCTION & MINOR CONSTRUCTION AUTHORITY

Recent changes in 10 USC 2674 and the FY 1976 Military Appropriations Bill have provided the following increased approval levels for the Minor Construction Program described in OPNAVINST 11010.20C of 30 May 1974:

1. Urgent minor construction projects costing \$200,000 to \$400,000 must be approved by the Secretary of Defense. The former range was \$100,000 to \$300,000.
2. Urgent minor construction projects costing \$75,000 to \$200,000 must be approved by the Secretary of the Navy. The former range was \$50,000 to \$100,000.
3. Minor construction special projects costing under \$75,000 can be approved by the Major Claimant and funded by available Major Claimant O&MN funds. The former level was \$50,000.

A change to OPNAVINST 11010.20C will be issued.

H. L. Nuzzo (Code 102B)

PAINTS & PROTECTIVE COATINGS MANUAL, NAVFAC MO-110

MO-110, Paints and Protective Coatings, has been updated and revised. The revised edition has been printed and should be distributed during the first part of calendar year 1976.

MO-110 is monitored by a tri-service (Army-Navy-Air Force) committee in cooperation with the National Bureau of Standards. The manual has been updated to include recently developed materials, paint systems, safety procedures, and the latest federal or military specifications. Notable changes include:

- a. New exterior latex paints.
- b. Restrictions imposed by law on the use of lead-containing paints.
- c. Rewrite of the safety chapter to comply with OSHA regulations, provisions on how to obtain detailed meteorological information, a table of estimated film thickness of paint coatings for exterior steel surfaces.

A. S. Gallup (Code 102A)

CONDENSATE RETURN LINE CORROSION CONTROL

Having problems obtaining morpholine for the control of condensate return line corrosion? The Bureau of Mines reports that the only currently available primary source of morpholine appears to be the Jefferson Chemical Company with headquarters in New York City. The chemical is sold at \$0.93 per pound, FOB warehouse. The contact man at Jefferson for Government purchases is Mr. J. Sibley and can be reached on (212) 953-6000, extension 6558.

N. A. Machara (Code 102F)

ENERGY CONSERVATION

Consolidation of functions/spaces is a good way to conserve energy. There is no saving in spending money on a structure that can or will be deactivated.

A. S. Gallup (Code 102A)

PREPARE FOR METRIC CONVERSION

Slowly but surely conversion to the metric system is becoming a reality. The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) has established a timetable for complete conversion to

Systems Internationale (SI) metric units. ASHRAE publications issued after 1 January 1976 must contain SI metric units but may also contain dual SI-English units. After 1 July 1977, only SI units or a dual system of SI units first and English units second may be used in ASHRAE publications. After 1 July 1979, only SI metric units will be used. What conversion timetable have you established?

N. A. Machara (Code 102F)

HOT WATER HEATERS - ENERGY CONSERVATION

High efficiency electric and gas-fired hot water heaters are included in the General Services Administration, Federal Supply Service, Supplement No. 1, Ordering Data for Class 4520 Water Heaters, issued 14 March 1975. These units have increased jacket insulation to reduce standby heat losses. The available sizes and federal stock numbers are:

52-gallon electric (4520-00-143-9440)
80-gallon electric (4520-00-143-9502)
40-gallon gas (4520-00-143-9550)
50-gallon gas (4520-00-143-9548)

R. K. Middleton (Code 102H)

PROCEDURES FOR DEACTIVATING BUILDINGS

Layaway of buildings is indicated when an inactive period of two years or more is expected after lay-up is completed. Measures to be taken include:

- a. Repair and/or replacement of loose, damaged or missing building shell components and roof repairs essential for weatherproofing.
- b. Attention to ventilating requirements.
- c. Prevention of corrosion and freezing.
- d. Identification and storage of accessories.
- e. Maintenance of security and fire protection.

Procedures are detailed in NAVFAC MO-300, Inactivation of Facilities.

A. S. Gallup (Code 102A)

MORATORIUM - ELECTRIC RESISTANCE HEATING

In May 1975, OASD by memorandum prohibited the use of electric resistance space heaters under all conditions.

By letter of 13 January 1976, NAVFACENGCOM has notified Engineering Field Divisions that a "moratorium, effective immediately, is established on the installation of all types of electric resistance heating (including indirect methods) for space heating or for reheat for all personnel comfort applications. Supplementary electric heaters for heat pumps are excluded from this moratorium."

Anyone feeling that they need an exception to this policy will have to submit a request for deviation and it will have to be well documented.

N. A. Machara (Code 102F)

WINDOW AIR CONDITIONING UNITS & ENERGY CONSERVATION

The Armed Services Procurement Regulations (ASPR) requested that all replacement window air conditioning units shall be obtained through GSA stock, without exception. It has been called to our attention that units currently available from GSA stock do not meet the BTU per watt input as specified in the following paragraph. This policy, however, does not apply to air conditioning units under new construction contracts.

If you have a need for replacement of window units, it is suggested that the activity request individual waivers from the National Term Contract from the Commissioner, General Services Administration (GSA-FSS), Washington, D.C. 20406. The request for deviation must:

1. Be submitted for each procurement.
2. Cite as a justification the direction from OASD (I&L) that "where room (window type) air conditioning units are installed, these units shall produce not less than 8.5 BTU per watt input for 120 volt units and not less than 8.0 BTU per watt input for 230 volt units".
3. Identify at least one and, if possible, two makes and models which meet or exceed the OASD (I&L) requirements; and
4. Agree to procure the qualifying models through the local GSA region office.

R. K. Middleton (Code 102H)

TIPS ON ANTIFREEZE (taken from CESO Maintenance Bulletin #18,
December 1975)

Present day antifreeze coolant must: have a high boiling point; give freeze protection; prevent corrosion; give good heat transfer; be chemically stable; be mixable with water; be relatively nonflammable and nontoxic; not affect other materials in cooling system; not foam; not evaporate; or not expand excessively.

For today's engines, it is not safe to operate with low boiling point fluids, such as methyl alcohol but a properly formulated ethylene glycol based coolant is required to satisfy the modern cooling system.

Be sure to use sufficient antifreeze coolant solution to protect the system to the lowest expected temperature.

<u>Freezing Point (Fahrenheit)</u>	<u>Antifreeze (Ethylene Glycol-Permanent Type)</u>
+20°	16%
+10°	25%
0°	33%
-10°	40%
-20°	45%
-30°	50%
-40°	54%
-50°	58%
-60°	62%
-70°	65%

Many manufacturers recommend using a 50% antifreeze solution for year-round protection. Maintenance Division CESO concurs with this practice.

When mixing antifreeze, use water with a pH between 6.5 and 8.0; slightly alkaline pH (7.0 to 8.0) preferred. The water should be relatively free of chloride and sulfate, i.e., less than 100 parts per million (PPM) with total hardness less than 200 PPM. Do not use water softened by chemically treating with chloride (salts) because chloride condition is very corrosive.

If antifreeze is to be retained for prolonged periods, check with test kit NSN 6630-00-169-1506, to insure adequate continuing corrosion protection. If the tests indicate

incorrect pH, add Cooling System Inhibitor, NSN 6850-00-753-4967.

Beware of additives containing soluble oil; they may interfere with the cooling system filter function and aggravate foaming. Soluble oil is not a Navy approved cooling system corrosion inhibitor and will not be used in Civil Engineering Support Equipment (CESE).

How to Conserve Antifreeze.

1. Eliminate over-filling. Blowing a radiator or heater hose is a great way to dump all the coolant in a hurry. The biggest waste of antifreeze is caused by over-filling; a radiator filled to the top, when cool, will cause a loss of approximately three quarts when it gets hot.

2. Stopping leaks. Overheating, due to low coolant level, can cost you an engine. Pressure test the cooling system at each scheduled PM inspection; make sure to check the radiator cap, check valve and filler neck for proper sealing.

3. Retaining antifreeze during repairs. If the cooling system is drained for component repair or replacement, retain the antifreeze in a clean drain basin; re-use, if clean.

4. Using heavy-duty acid cleaners in cooling system. Cooling system cleaner, i.e., NSN 6850-00-598-7328, should be used only if the system is badly rusted. (Highly alkaline cleaners should not be used in aluminum engines or radiators.) When heavy-duty cleaners are used, recommend pressure flushing to neutralize and check cooling inhibitor within 30 days.

5. Pre-mixing antifreeze. Keep drums of pre-mixed antifreeze at service facility and check freezing point of engine coolant regularly.

PRICE INCREASE ON CHLORDANE

Chlordane 72% emulsifiable concentrate (FSN 6840-00-270-8262) is the only effective soil poisoning chemical for subterranean termite control which is readily available on the market today. LANTDIVINST 6250.2E of 25 November 1975 listed this stock item at \$30 (5 gallon pail). The current price has risen significantly to \$51.50.

A. Branam (Code 10A)

UTILITIES COST ANALYSIS REPORT (UCAR)

NAVCOMPT Manual, paragraph 037324, prescribes the reporting requirements of UCAR and requires that one copy of the annual UCAR be forwarded to NAVFACENGCOM.

Several quarterly UCAR'S are being unnecessarily distributed to NAVFACENGCOM.

Remember - only a copy of the annual UCAR is required.

WATERFRONT FACILITIES WORKSHOP

Maintenance Division, LANTDIV, will sponsor a waterfront facilities workshop on 18 and 19 May 1976 at the Ramada Inn, 6360 Newtown Road, Norfolk. A LANTDIV Notice, now being prepared, will provide additional information.

Begin planning now for public works and other personnel engaged in design, inspection, maintenance and repair of waterfront facilities to attend this workshop.

