HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC 20310

NATIONAL GUARD REGULATION
NO. 11-27

9 November 1988

Effective 9 December 1988

Army Programs

ARNG ENERGY PROGRAM

Summary. This regulation which provides basic guidance for all phases of energy management within the Army National Guard has been revised. It is to be used with AR 11-27 and details the program for energy conservation within the ARNG. This regulation gives instructions on preparation of Defense Energy Information System (DEIS) reports; it explains nomination criteria for the energy conservation awards program; and provides basic guidelines for energy conservation plans.

Applicability. This regulation applies to the Army National Guard (ARNG). Specifically, this regulation applies to Energy Managers at the state/territory level.

Impact on Unit Manning System. This regulation does not contain information that affects the New Manning System.

Internal Control Systems. This regulation is subject to the requirements of AR 11-2. It contains internal control provisions and checklists for conducting internal control reviews.

Supplementation Statement. Supplementation of this regulation is prohibited without prior approval from HQDA (NBG-ARL), Washington, DC, 20310-2500.

Interim Changes. Interim changes to this regulation are not official unless authenticated by the Executive, National Guard Bureau. Users will destroy interim changes on their expiration date unless sooner superseded or rescinded.

Suggested Improvements. The proponent agency of this regulation is NGB-ARL. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA (NGB-ARL), Washington, DC, 20310-2500.

Distribution. Special.

This regulation supersedes NGR 11-27, dated 1 December 1979.

CHAPTER 1

1-1. Purpose. This regulation establishes the Army National Guard (ARNG) Energy Program, and provides basic guidance necessary for all phases of energy management within the ARNG.

1-2. Scope. The ARNG Energy Program applies to all ARNG installations, activities, operations, and personnel; military and civilian.

1-3. Objectives. The objectives of this program are to:

a. Combine ARNG energy policy into a single document.

b. Outline the ARNG energy conservation program.

c. Provide basic energy conservation guidelines.

d. Establish the Army National Guard Energy Advisory Council and outline its function.

1-4. Policy.

a. Minimize energy consumption while maximizing readiness.

b. Intensively manage ARNG energy resources to assure their efficient use in supporting operational readiness and mission requirements.

c. Conserve energy to the maximum consistent with readiness, mission, health, and safety requirements.

d. Stress energy conservation in the operation of present equipment and facilities and with due consideration in the acquisition of commercial type equipment and construction of new facilities.

e. Closely monitor operation and maintenance of equipment and facilities to assure the best performance and to minimize energy consumption.

f. Incorporate energy conservation into troop training and information programs.

g. Continually monitor performance against established energy conservation goals using data reported to the Army DEIS (Defense Energy Information System) Data Entry System (ADDS).

h. Facilities energy management is contained in the ARNG Facilities Energy Program (ARNG-FEP).

i. Policy on safeguarding petroleum products is contained in NGR 190-51.

j. Petroleum fuels and coal are managed in accordance with AR 710-2.

k. Guidance for management of purchased steam and hot water is contained in AR 420-41.

1-5. Responsibilities.

a. The Director, ARNG has overall responsibility for ARNG energy management.

b. The Deputy Director, ARNG is the ARNG primary member of the Army Advisory Group on Energy (AAGE) and the Chairman of the Energy Advisory Council (EAC).

c. The Chief, Army Logistics Division (NGB-ARL) has staff responsibility for the ARNG energy program.

d. The Resource Management Officer, Army Logistics Division is responsible for:

(1) Supervising and coordinating the ARNG energy program.

(2) Formulating and recommending ARNG coordinated policy on energy management to the EAC in consonance with DA directives.

(3) Coordinating plans and actions that impact on energy matters with DA Energy Office (DALO-TSE) and advising them on the status of such actions.

(4) Serving as the NGB POC for all energy resource-related actions.

(5) Serving as the AAGE working group member for the ARNG.

(6) Coordinating petroleum requirements with U.S. Army General Materiel and Petroleum Activity (GMPA), for procurement by Defense Fuel Supply Center (DFSC).

(7) Recommending specific energy and petroleum management items for review by the ARNG Command Logistics Review Team and Command Logistics Review Team Expanded (CLRT/CLRTX).

(8) Providing input to DA on energy related legislation as it concerns the ARNG.

(9) Providing technical guidance on management of all petroleum products.

(10) Coordinating with NGB Installations Division (NGB-ARI) requirements for petroleum storage facilities.

(11) Providing input to the NGB Office of Public Affairs (NGB-PA) for energy conservation publicity and awareness programs.

(12) Monitoring energy consumption by ARNG activities through review and analysis of DEIS reports.

(13) Coordinating action concerning the environmental impacts of energy consumption by the ARNG.

(14) Administering the ARNG Energy Conservation Award Program.

(15) Preparing the ARNG Energy Resource Management Plan and Annual Progress Report.

e. The Chief, Organizational and Training Division (NGB-ARO) is responsible for:

(1) Establishing operational priorities for distribution of energy fuels.

(2) Developing and providing policy guidance on unit training and exercises within the guidance of this regulation.

(3) Monitoring fuel availability impact on training as reported on the unit status report (USR) and FORSCOM Forms 1R/2R, as appropriate.

f. The Chief, Installations Division (NGB-ARI) is responsible for:

(1) Providing guidance to States on facilities energy conservation measures.

(2) Publishing an ARNG Facilities Energy Plan.

(3) Emphasizing energy conservation and life cycle costing considerations in all construction programs.

(4) Assuring that energy requirements and the impact on energy resources are considered during construction project reviews.

(5) Management of the ARNG Facilities Energy Program (FEP).

g. The Chief, Office of Public Affairs (NGB-PA) is responsible for managing the NGB Energy Conservation Publicity and Awareness Program, in coordination with NGB-ARL.

h. The Chief, ARNG Information Management Agency (NGB-IMA) is responsible for providing computer support necessary for the accurate and timely monitoring of DEIS reports.

(2) Coordinating plans and actions that impact on energy matters with the Chief, NGB-ARL.

i. All staff agencies at NGB level are responsible for:

(1) Insuring that energy considerations are included in agency functional responsibilities.

(3) Insuring that all energy-related policy documents for which they are the proponent have been evaluated by the ARNGEAC.

j. State adjutants general are responsible for:

(1) Allocating State ARNG energy resources commensurate with operational, training, and mission requirements.

(2) Establishing a point of contact (POC) to coordinate and expedite actions on energy matters.

(3) Designating an energy POC at each command level down through battalion. The position description of the assistant supply management officer in the office of the United States Property and Fiscal Officer (USPFO) should include energy management. The State AG POC and the USPFO Assistant Supply Management Officer must coordinate the effort between command channels and energy management/reporting procedures.

(4) Formation of energy action committees, including the AG and USPFO energy POC's, to act on energy matters at State level.

k. Commanders and supervisors at all levels are responsible for:

(1) Efficient use of energy sources within their area of operation.

(2) Initiating energy programs to support these objectives and goals.

(3) Assuring the validity and timeliness of energy and petroleum management data required or requested by higher authority.

(4) Developing and maintaining plans for dealing with potential energy shortages.

1-6. Reference Publications. Publications related to energy conservation and petroleum management are listed in appendix A.

CHAPTER 2
ENERGY CONSERVATION

2-1. General.

a. This chapter provides requirements for the Energy Conservation Program (ECP) element of the ARNG Energy Program.

b. The goal of these energy saving practices is the elimination of waste and is not intended to deny basic human comforts.

c. Basic concepts explaining the need for energy conservation are contained in chapter 3, AR 11-27.

2-2. Goals. National energy planning principles, Department of Defense and Army goals, objectives, and policies are outlined in the Army Energy Resource Management Plan. The CNGB supports the overall energy conservation goals as stated in the cited plans.

2-3. Operations and Training.

a. Basic guidelines concerning energy conservation in use of equipment, exercises, personnel activities, and training are given in chapter 3, AR 11-27.

b. In addition, the following actions are to be implemented by all ARNG activities:

(1) Use State-owned facilities or nearest training site that can provide the necessary accommodation and resources to satisfy training requirements. Eliminate all but mission-essential equipment from AT plans. Whenever possible, obtain mission-essential equipment through loan from host activities/units, or preposition equipment at the training site. Provide maximum use of commercial transportation for troop movement to and from AT sites, and budget fiscal requirements accordingly. Discourage use of privately owned vehicles (POV's) to and from AT (See NGR 350-1).

(2) Encourage use of carpools and existing commercial transportation by technician personnel between home and work site and by all ARNG personnel traveling between home and unit armories for inactive duty training (IDT). Provide maximum use of commercial transportation between unit armories and IDT training sites.

(3) In consonance with mission/training requirements, make maximum use of trainers, simulators, video tapes, battle simulation games, and other devices that consume less energy.

(4) Exercise strict management of ground equipment and aircraft to insure efficient use of the least vehicles required to accomplish the mission. Use the most fuel efficient vehicle for administrative missions. Combine administrative and training flights where possible.

(5) Prohibit idling of vehicle for running air-conditioners or heaters.

(6) Provide periodic refresher training to operators and mechanics of vehicle/equipment for energy efficient operation and maintenance; see appendix C.

2-4. Installations and Facilities.

a. Basic guidelines concerning energy conservation in the utilities area are given in chapter 3, AR 11-27, AR 420 series, the Army Energy Resource Management Plan, and the ARNG-FEP.

b. In addition, the following actions should be implemented by all ARNG activities:

(1) Combine all operations into as few facilities as practical.

(2) Insure the accuracy of thermostats.

(a) Temperature controls regulating heating units for all offices and similar areas where personnel work seated or in a standing position involving little or no exercise must be set to 65 degrees F during working hours and not more than 55 degrees F during nonworking hours.

(b) In facilities to include shops, hangars and other buildings or sections of buildings where many employees work in a standing position and/or exercise moderately, heating units must be set no higher than 55 degrees F during working hours and 40 degrees F during nonworking hours.

(c) In facilities where employees do work involving considerable exercise or where heat is required to protect materiel and installed equipment from freezing, heating controls must be set no higher than 40 degrees F during all hours.

(d) Heating must not be permitted in warehouse sections that do not contain material or equipment requiring protection from freezing or condensation and where warehousing of stored goods is the only operation.

(e) Air-conditioning controls must be set no lower than 78 degrees F, except for automatic data processing (ADP) and other facilities requiring more stringent climate control in accordance with manufacturers instructions. Work schedules can be adjusted to take advantage of the cool periods of the day when States elect to eliminate use of air-conditioning systems for the entire cooling system.

(3) Reduce lighting wherever possible, and use the most energy efficient lamps. Use the least amount of ornamental lighting at ARNG facilities.

(4) Extinguish all pilot lights when systems (e.g. heating systems, water heaters, and kitchen facilities) are off for extended periods.

(5) During the coldest months, use facilities only for training, mission accomplishment, and readiness needs.

(6) Where practical, install switches on hangar doors, servicing bay doors, etc. to shut off heating, ventilation , and air-conditioning (HVAC) systems when doors are open.

(7) Incorporate into end-of-day security checks conservation check to insure that utilities are regulated to prescribed settings.

(8) Set water heaters in accordance with guidelines given in AR 420-49 and AR 11-27.

(9) Monitor the conservation program carefully to check on personal discomfort, damage to property/equipment, or loss of operational effectiveness.

2-5. State Energy Conservation Plans.

a. States should combine basic policies and guidelines concerning energy conservation into a single document that supports this basic policy guidance.

b. State plans should include an educational program to instill energy conservation awareness in all military and civilian personnel.

c. Publications/film listings to support educational programs can be obtained by writing USDOE, Technical Information Center, P.O. Box 62, Oak Ridge, TN 37830.

2-6. Additional Elements, ARNG Energy Advisory Council. The Army Directorate, NGB has established an ARNG EAC, which is the proponent for energy management policy at NGB level. It is a NGB counterpart to the DA AAGE and will serve as a forum to discuss and resolve significant energy matters such as priorities, allocations, and budget restraints in accordance with DA directives. Correspondence concerning energy policy should be addressed to HQDA (NGB-ARL), Washington, DC 20310-2500.

2-7. Director's Award for Energy Conservation.

a. This award is given to the State, in each Army area, with the best energy conservation program for a given fiscal year.

b. Recognition of this achievement is with a suitable memento presented for display in the State military headquarters.

c. The objective of this award program is to provide an added incentive to further reduce energy consumption in the ARNG.

d. Two states will be selected annually to represent the ARNG in competition for the Annual Secretary of the Army Energy Conservation Award.

e. Nomination composition for the Director's Award for Energy Conservation is contained in Appendix E. Annual submissions by the states will be made to arrive at NGB-ARL-T by 31 Dec.

2-8. Energy Conservation and Awareness Program.

a. General. NGB-PA's mission will entail execution of public affairs efforts in the following:

(1) Public Information - produce news releases for external media explaining energy concerns of NGB, conservation measures taken, achievements attained, and the necessity for continued ARNG training.

(2) Community Relations - request that States include energy conservation topics in public speeches by National Guard officials. Requests for transportation and other community relations support involving energy expenditures will be evaluated carefully weighing energy conservation needs and public affairs benefits accrued to the National Guard. NGB-PA will encourage States to actively pursue a local energy conservation program using the National Guard as an example, and explaining how individual citizens might also benefit from the procedures.

(3) Command Information - publicize NGB energy conservation policies in internal publications. In addition, the need for continued training at current levels will be explained.

b. Staff visits will be made as necessary to effectively monitor State programs and efforts toward energy conservation.

c. Energy surveys will be conducted as necessary and in accordance with AR 11-27. The State energy POC, or his representative, will be responsible for energy audits of facilities used by the State's units/activities.

2-9. Energy Reporting. ARNG energy reporting will be in accordance with AR 11-27, DOD 5126.46-M, supplemental instructions as outlined in appendix D, and additional guidance as provided by NGB.

APPENDIX A

REFERENCE PUBLICATIONS

DOE/OPA-0003	The National Energy Act
DOE CS-0034/1	Practical Material for Teaching Energy Management
DOD 4140.25-M	Procedures for the Management of Petroleum Products Manual
DOD 5126.46-M	Defense Energy Information System
AR 11-27	Army Energy Program
NGR 350-1	Training
AR 420-41	Utilities Contracts
AR 420-49	Heating Energy Selection and Fuel Storage, Distribution, and Dispersing Systems
AR 710-2	Supply Policy Below the Wholesale Level
NGR/AR 190-51	Security of Army Property at Unit and Installation Level
*	The Army Energy Resources Management Plan (ERMP)
*	Operating Instructions for the Army DEIS Data Entry System (ADDS)

APPENDIX B

FUEL SAVING DATA

The following information is provided for effecting fuel savings, as a function of vehicle speed, for the M151, 1/4 ton truck, and the M35A2, 2-1/2 ton truck. The information may be useful to field commanders in planning fuel conservation programs.

(a) Based on dynamometer tests on the M151, results show that maximum fuel savings can be obtained by reducing the speed to 25 MPH. Examples of typical fuel consumption values for fourth gear operation are:

25 MPH	30 MPH	40 MPH	50 MPH
26.0 MPG	25.2 MPG	23.3 MPG	19.1 MPG

Percent increases of fuel consumption above 25 MPH are:

25 to 30 MPH	25 to 40 MPH	25 to 50 MPH
3.0%	10.4%	26.5%

(b) Test track data and calculated values of fuel consumption for one fully loaded M35A2, 2 1/2 ton truck are:

30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
8.7 MPG	8.3 MPG	7.7 MPG	7.0 MPG	6.3 MPG

Percent increases of fuel consumption above 30 MPH are:

30-35 MPH	30-40 MPH	30-45 MPH	30-50 MPH
4.6%	11.5%	19.5%	27.6%

APPENDIX C

CHECKLIST FOR ENERGY CONSERVATION

C-1. Does your facility have a command-directed fuel conservation program with:

a. Chief?
b. Publicity?
c. Awards--Motivation?
d. Directives--Regulations, etc.?

C-2. Have existing directives/instructions (local and higher headquarters) been or are they being implemented?

C-3. Are there control procedures to insure maximum use of each building? Are utilities shut off in unoccupied buildings; also in unoccupied areas of active buildings ?

C-4. Does your installation have an energy conservation goal?

a. Have specific milestones been established?
b. Have action plans been developed to achieve milestones?
c. Is fuel conservation measured and reviewed?
d. Has responsibility for action-plan implementation been assigned to a specific individual?

C-5. Has the responsible person communicated action plans to the widest possible range of command/organizational/component personnel?

C-6. Are your energy consumption reporting procedures timely and accurate?

C-7. Does your installation have a broad program to increase personnel awareness of the need for maximum energy conservation in your buildings and their homes?

C-8. Have you considered use of in-house publications, display of posters and stickers; inclusions as an item with the local speakers' bureau; or sponsoring an energy conservation day?

C-9. Have programs been designed for regional and other field activities?

C-10. Has consideration been given to designating one person for central control of energy usage in your building, including removal of unnecessary lights and improvement of temperature control?

a. Is an energy waste reporting system encouraged?
b. Is there a person designated to whom to report wasteful deficiencies; e.g., a steam leak or street lighting on during the day?

C-11. Has assistance, when needed, been requested from higher headquarters, other government agencies or utility companies to obtain checklists or an on-site checkup on equipment maintenance, efficient use of lights, and temperature control features?

C-12. Has consideration been given to advancing the starting time of workdays during summer to reduce energy required for air-conditioned space?

C-13. Is smoking prohibited in classrooms, conference rooms, and similar assembly areas to permit reduction of outside air requirements to reduce cooling and heating loads? (1/8 ventilation requirements.)

C-14. Is there a plan to control large electrical loads, such as air field lighting, for maximum conservation.

C-15. Is there a contingency plan in effect in case of fuel shortages, interservice support, etc.?

C-16. Is your installation able to gauge the impact on energy consumption of various energy conservation efforts?

a. For de-lamping?
b. For temperature control?
c. For daytime cleaning?
d. For improved vehicle maintenance?

C-17. Do existing fiscal accounting procedures encourage conservation?

C-18. Recommendations/Problems.

a. What guidance/policy would help you?
b. What specifically would you recommend be done to alleviate the energy problem in your area of responsibility?

APPENDIX D

DEFENSE ENERGY INFORMATION SYSTEM (DEIS) REPORT PROCEDURE

D-1. State input to DEIS must be accurate. The reports are used for management purposes by the Office of the Secretary of Defense, Department of the Army and the National Guard Bureau for energy conservation evaluation and energy related budget planning. The reports are furnished through DA to DOD and ultimately, to the Congress. Therefore, all personnel responsible for the preparation and review of the input data must ensure that the data is timely and accurate.

D-2. DEIS I and DEIS II data are intended to provide timely minimum essential energy management information. The formats of these reports have been developed to ease preparation by reporting activities, provide for rapid transmission and simplify automated data processing. This data also provides a means for evaluating energy consumption against established goals.

TABLE OF CONTENTS

1. References: The following references are required to be on hand with DEIS personnel.

a. DOD 5126.46-M Defense Energy Information System, December 1982. This contains instructions for all DOD elements for energy reporting.

b. AR 11-27, Army Energy Program, 7 July 1985. This regulation contains instructions as to the preparation of DEIS reports for all Army elements.

2. AUTODIN INSTRUCTIONS: Always transmit a header card, subject card, action card, and trailer card for energy resources being reported.

2-1. Header Card:

Card Column	Comment
1	Enter "P"
2-3	Enter "CC" or "TC"
4	Enter "U"
5-8	Enter "AHAJ"
9	Blank
10-16	Routing indicator of transmitting station
17-20	Sequential number
21	Blank
22-24	Julian day
25-28	Time of file
29	Blank
30-33	Card count of "MTMS"
34	Enter Dash "-"
35-40	Enter "UUUU--"
41-47	Enter "RUEWNGT" Always use this routing indicator.
48	Enter period "."
49-80	Leave blank

2-2. Subject Card:

Card Column	Comment
1-4	Enter "DEIS"
5	Blank
6	Enter "1" for DEIS-I "2" for DEIS-II
7	Blank
8-10	Enter "RCS"
11	Blank
12-13	Enter "DD"
14	Blank
15	Enter "-"
16	Enter "M"
17	Blank
18	Enter "M"
19	Blank
20-23	Enter "1313"
24-80	Blank

2-3. Action Card (Data line): Format according to paragraph 3 (DEIS I) or paragraph 4 (DEIS II) of this report preparation guide.

2-4. Trailer Card: AUTOVON trailer card is identical to the header card through card column 48 except that the trailer card must contain the actual card count in columns 30-33. Columns 49 through 76 are blank and columns 77-80 contain "NNNN."

3. DEIS I (MOBILITY FUEL REPORT)

3-1. DEIS I IDENTIFIERS: The format given below must be accurately and completely filled out for each MEA 2, MEA 3 and MEA 4 submitted through Autodin as an action card. The data required in card columns 1 through 22 is identical for all three action cards submitted on each product reported with the exception of card column 5, which will be a 2, 3 or 4, depending on the type of action card.

Card Column	Data Field
1-3	MEA
4	Blank
5	2, 3 or 4
6	Blank
7-12	DODAAC (such as, FP2300 N00151 W26FAA). These activity address codes are defined in DOD 4000.25-D. Use USPFO DODAAC.
13	Blank
14-15	Enter last two digits of the calendar year of the reporting period.
16-17	Enter two-digit value indicating the month number of the reporting period, for example, enter 01 for January.
18	Blank
19-21	The approved three character product code as shown in paragraph 3-8.
22	Blank

3-2. EXPLANATION OF MEA 2 CARD DATA FIELDS.

a. IDENTIFIERS. Card columns 1-22 shall be completed in accordance with paragraph 3-1.

b. OPENING INVENTORY. Card columns 23-29 shall be used to report the total quantity of measured inventory on-hand at the beginning of the report period. This includes quantities in tanks over 1000 gallon capacity that can be gaged in accordance with FM 10-69 or which can be metered. Quantities delivered to tanks of 1000 gallon capacity or less and to tanks over 1000 gallon capacity which cannot be gaged or metered shall be reported as consumed at the time of delivery to the tank and included in the issues data field. Activities which do not store products or which only have tanks of 1000 gallon capacity or less shall put seven zeroes in this field. THE CLOSING INVENTORY QUANTITY OF THE PREVIOUS REPORT MUST BE EQUAL TO THE OPENING INVENTORY OF THE CURRENT REPORT.

c. ISSUES. Card columns 31-37 shall be used to report the

total quantity of fuel which was issued from bulk by the reporting activity during the report period.

(1) Fuel issued to all consuming vehicles, aircraft and buildings, regardless of ownership. This includes GSA, commercial leased, or any other vehicles not owned but used by the Army National Guard. (Card columns 23-28, Mobility Consumption, and 30-35, Building Consumption, from the MEA 3 Card).

(2) Fuel issued to all bulk transfer or sales (both intra- and interservice). (Card columns 23-27, 29-33, 35-39, 41-45; MEA 4 Card)

(3) Issues include determinable losses of fuel (such as spillage, evaporation, leakage, pipeline rupture, jettison of fuel and pilferage) and decreases in inventory due to blending and interface mixing. (Card columns 44-49, MEA 3 card). This entry should be supported by Monthly Bulk Petroleum Accounting Summary (DA FORM 4702-R).

(4) DO NOT include Credit Card or Aircraft Identaplate purchase in your issue quantity (see paragraph 3-3f).

(5) Where fuel is issued by an Army National Guard activity into an Army National Guard bulk transporter, the quantity shall be reported either as consumed at loading or as inventory while in the transporter and then as consumption when dispensed from the bulk transporters to units within its activity. It is RECOMMENDED that fuel in bulk transporters be counted as inventory until actually dispensed into fuel consuming equipment. This will preclude problems of reporting fuel as consumed twice; e.g., once when it is put into the bulk transporter then again when it is dispensed into the actual fuel consuming equipment. When the issuing Army National Guard installation issues in bulk to another Army activity (other than your state ARNG) to include USAR, the transaction shall be included in issues on the MEA 2 card and reported on the MEA 4 card under the data fields "Other Army Transfers", card columns 47-51 (do not include a transfer in consumption reported on the MEA 3 card). This is reported as a transfer of fuel as your state is not consuming it.

d. COMMERCIAL SOURCE RECEIPTS. Card columns 39-45 shall be used to report the total quantity received from or delivered by commercial petroleum companies, including direct delivery to operating activities, local purchases and contract bulletin receipts.

e. DOD AND NONCOMMERCIAL SOURCE RECEIPTS. Card columns 47-53 shall be used to report receipts from DFSC, Air Force, Navy, Marine, allied or foreign military governments and other Army activities (when reported by the other activity as an other Army transfer on their MEA 4 card). This includes POL that is payment in kind from your state. This also includes Bulk POL drawn at annual training.

f. CLOSING INVENTORY. Card columns 55-61 shall be used to report the MEASURED inventory of product as of 0800 hours on the last calendar day of the report month. Guidelines for determining quantity on-hand are the same as those for opening inventory, paragraph 3-2b.

g. MATH CHECKS:

(1) Closing inventory (CC 55-61) = Opening Balance, minus Issues, plus Commercial Receipts, plus DOD/Non-Commercial Receipts.

(2) Issues (CC 31-37) equal the sum of MEA 3 card columns, 23 thru 49, and MEA 4 card columns 23 thru 57. CREDIT CARD PURCHASES ARE NOT INCLUDED AS PART OF ARNG ISSUES.

h. See MEA 2 Card Graphic, figure 3-1.

3-3. EXPLANATION OF MEA 3 CARD DATA FIELDS:

a. IDENTIFIERS. Card columns 1-22 shall be completed in accordance with paragraph 3-1.

b. MOBILITY. Card columns 23-28 shall be used to report your state ARNG mobility consumption in whole barrels (BBLS). Mobility includes fuel consumed by vehicles such as automobiles, boats and other watercraft, aircraft, wheeled, tracked, or others which provide mobility, plus tactical power generation, steam cleaners and tactical heating. PPG used for mobility is to be reported in these card columns but as no other consumption in DEIS-I. Propane used in buildings is to be reported in DEIS-II.

c. FACILITIES/BUILDINGS. Card columns 30-35 shall be used to report total building energy consumed for conditioning (heating, cooling, ventilation), lighting, domestic hot water, laundry and nontactical power generation (FS1, FS2, etc.). Heating fuel reported here is not counted against your allocation.

d. ZERO FILL. Card columns 37-42 shall be zero filled by the Army National Guard.

e. DOWNGRADE AND LOSS. Card columns 44-49 shall be used to report the quantity of product lost or downgraded (see paragraph 3-2c(3)). Remember, fuel that is a loss on the MBPAS (DA Form 4702-R) is reported as an issue on the MEA 2 card.

f. CREDIT CARD. The card columns 51-56 shall be used to report consumption from into-plane contracts, Form 15/44 purchases for aviation fuels, credit card purchases and DOD AVFUELS indentaplate purchases. This consumption is NOT to be reported in any other card columns because that would result in the consumption being counted twice against mobility. This is not an issue on the MEA 2 card. Total consumption differs from mobility consumption in that total consumption includes mobility, facility, loss and credit card issues while mobility consumption includes only mobility and credit card consumption.

g. TOTAL CONSUMPTION. Card columns 58-63 of the MEA 3 card will be used by the state to report total consumption of petroleum fuels. Total consumption will equal the sum of all entries entered on the MEA 3 Card.

h. MATH CHECK: Total consumption equals mobility consumption, plus building consumption, plus downgrade/loss, plus credit card consumption.

i. See MEA 3 Card Graphic, figure 3-2.

3-4. EXPLANATION OF MEA 4 CARD DATA FIELDS:

a. IDENTIFIERS. Card columns 1-22 to be completed in accordance with paragraph 3-1.

b. ISSUES INTO AIR FORCE CONSUMING VEHICLES (NON-BULK). Card columns 23-27 shall be used to report the total quantity of the petroleum fuel issued to Air Force owned or leased vehicles, aircraft or watercraft.

c. ISSUES INTO NAVY CONSUMING VEHICLES (NON-BULK). Card columns 29-33 shall be used to report the total quantity of the petroleum fuel issued to Navy owned or leased vehicles, aircraft or watercraft.

d. ISSUES INTO MARINE CONSUMING VEHICLES (NON-BULK). Card columns 35-39 shall be used to report the total quantity of the petroleum fuel issued to Marine owned or leased vehicles aircraft or watercraft.

e. ISSUES INTO NON-DOD CONSUMING VEHICLES AND BULK ISSUES. Card columns 41-45 shall be used to report the total quantity of the petroleum fuel issued into consuming vehicles or as bulk to all non DOD activities such as state agencies.

f. BULK ISSUES TO DOD. Card columns 53-57 shall be used to report the total quantity of the petroleum fuel issued in bulk form to DOD activities other than the US Army.

g. OTHER ARMY BULK TRANSFER. Card columns 47-51 shall be used to report the total quantity of the petroleum fuel transferred from the State's ARNG to other Army activities to include USAR. This is fuel consumed by any Army activity other than your State ARNG.

h. ZERO FILL. Put issues to USAR in card column 47-51, zero fill card columns 59-63.

i. See MEA 4 Card Graphic, figure 3-3.

3-5. DEIS I MATH CHECKS: Math checks as displayed in figures 3-4 through 3-7 should be accomplished by DEIS personnel to insure the accuracy of the report prior to submission to NGB.

3-6. DEIS I WORKSHEET: Figure 3-8 depicts a worksheet which may be utilized by DEIS personnel in compiling required information from state-wide units. Figure 3-9 is a blank DEIS I worksheet.

3-7. COMMON DEIS I ERRORS: The following is a list of typical errors made on DEIS I reports.

a. Opening inventory does not match previous month's closing inventory. They must be identical.

b. Math computation for closing inventory, issues and total consumption incorrect. Correct by completing math checks IAW par 3-6.

c. Identifier information incorrect/incomplete. Insure that card columns 1 through 22 of MEA 2, 3 and 4 are filled in IAW para 3-1. Insure correct date is used.

d. Submit an MEA 2, MEA 3 and MEA 4 card for each product.

e. Format errors: All entries must be zero filled when applicable, space between data fields must be left blank. All entries to the right of the data field must be blank; i.e., MEA 2, cc 62 thru 8Ø, MEA 3 and 4, cc 64 thru 8Ø, must be left blank.

f. Supervisors should review data prior to sending it through AUTODIN for accuracy and completeness.

3-8. PRODUCTS AND PRODUCT CODES: Only these products and product codes listed below are authorized for DEIS I reporting.

Nomenclature: Gasoline, aviation, grade 100/130 MIL-G-5572E (NATO F-18)
Product code: 130
MBTU content per BBL: 5.25

Nomenclature: Gasoline, aviation, grade 100-130 low lead, MIL-G-5572E
Product code: 131
MBTU content per BBL: 5.25

Nomenclature: Gasoline, aviation, grade 108/135 PWA510A
Product code: 135
MBTU content per BBL: 5.25

Nomenclature: Gasoline, aviation, grade 115/145 MIL-G-5572E (NATO F-22)
Product code: 145
MBTU content per BBL: 5.25

Nomenclature: Gasoline, aviation, grade 80/87 MIL-G-5572E
Product code: 887
MBTU content per BBL: 5.25

Nomenclature: Gasoline, aviation, grade 91-96 MIL-G-5572
Product code: 996
MBTU content per BBL: 5.25

Nomenclature: Turbine fuel, aviation, grade JP-4 MIL-T-5624K (NATO F-40)
Product code: JP4
MBTU content per BBL: 5.334

Nomenclature: Turbine fuel, aviation, grade JP-5 MIL-T-5624K (NATO F-44)
Product code: JP5
MBTU content per BBL: 5.67

Nomenclature: Turbine fuel, aviation, referee for JP-4, grade I, MIL-T-5161
Product code: JR1
MBTU content per BBL: 5.334

Nomenclature: Turbine fuel, aviation, referee for JP-5, grade II, MIL-T-5161
Product code: JP2
MBTU content per BBL: 5.67

Nomenclature: Turbine fuel, aviation, kerosene type, grade JP-8 MIL-T-83133
Product code: JP8
MBTU content per BBL: 5.67

Nomenclature: Turbine fuel, aviation, grade Jet A ASTM D-1655
Product code: JAA
MBTU content per BBL: 5.334

Nomenclature: Turbine fuel, aviation, type Jet B ASTM D-1655
Product code: JAB
MBTU content per BBL: 5.334

Nomenclature: Turbine fuel, aviation, type Jet A-1, ASTM D-1655
Product code: JA1
MBTU content per BBL: 5.334

Nomenclature: Turbine fuel, aviation, JP-TS MIL-T-25524
Product code: JTS
MBTU content per BBL: 5.334

Nomenclature: Gasoline, automotive, combat, type I 3.17 gms per gal., max. metallic lead content, MIL-G-3056D (NATO F-46)
Product code: MG1
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, combat, type II 3.17 gms per gal., max. metallic lead content, MIL-G-3056D (NATO F-46)
Product code: MG2
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, combat, type III 3.17 gms per gal., max. metallic lead content, MIL-G-3056 (NATO F-46)
Product code: MG3
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, premium 4.23 gms per gal., max. lead content, FED-VV-G-76B
Product code: MGP
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, regular 4.24 gms per gal., max. lead content, FED-VV-G-76B
Product code: MGR
MBTU content per BBL: 5.25

Nomenclature: Gasoline, unleaded, .07 gm per gal. max., allowable tetraethyl lead; pressure appliances FED-VV-G-109A
Product code: MGU
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, special no lead, FED-VV-G-001690A
Product code: MUS
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, regular no lead, FED-VV-G-001690A
Product code: MUR
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, premium no lead, FED-VV-G-001690A
Product code: MUP
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, limited lead; 1.5 ml. max. tetraethyl lead ml. per gal allowable FED-VV-G-1690
Product code: MLL
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, no/low lead premium, .50 gms per gal. max. lead content, FED-VV-G-001690A
Product code: MLP
MBTU content per BBL: 5.25

Nomenclature: Gasoline, automotive, no/low lead regular, .50 gms per gal. max. lead content, FED-VV-G-001690A
Product code: MLR
MBTU content per BBL: 5.25

Nomenclature: Gasohol, automotive, special grade, unleaded, PD ME-102A
Product code: GUS
MBTU content per BBL: 5.08

Nomenclature: Gasohol, automotive, premium grade, unleaded, PD ME-102A
Product code: GUP
MBTU content per BBL: 5.08

Nomenclature: Gasohol, automotive, regular grade, unleaded, PD ME-102A
Product code: GUR
MBTU content per BBL: 5.08

Nomenclature: Propane (42 gal per bbl, 1524 ft^3 per barrel)
Product code: PPG (See note 1.)
MBTU content per BBL: 3.99

Nomenclature: Diesel fuel, marine, MIL-F-16884G (NATO F-76)
Product code: DFM
MBTU content per BBL: 5.825

Nomenclature: Diesel fuel (with exceptions to MIL-F-16884G
Product code: DFW
MBTU content per BBL: 5.825

Nomenclature: Diesel fuel, grade DF-1, winter, FED-VV-F-800B
Product code: DF1
MBTU content per BBL: 5.825

Nomenclature: Diesel fuel, grade DF-2, FED-VV-FF800B (NATO F-54)
Product code: DF2
MBTU content per BBL: 5.825

Nomenclature: Diesel fuel, artic, DF-A FED-VV-F-800B (NATO F-56)
Product code: DFA
MBTU content per BBL: 5.825

Nomenclature: Diesel fuel (for AF missile sites)
Product code: DFB
MBTU content per BBL: 5.825

PRODUCTS AND PRODUCT CODES (CONTINUED)

Nomenclature: Fuel oil burner, FS-1, FED-VV-F-815C
Product code: FS1
MBTU content per BBL: 5.825

Nomenclature: Fuel oil burner, FS-2, FED-VV-F-815C
Product code: FS2
MBTU content per BBL: 5.825

Nomenclature: Fuel oil burner, FS-4 FED-VV-F-815C
Product code: FS4
MBTU content per BBL: 6.287

Nomenclature: Fuel oil burner, FS-5 FED-VV-F-815C
Product code: FS5
MBTU content per BBL: 6.287

Nomenclature: Fuel oil burner, FS-6 FED-VV-F-815C
Product code: FS6
MBTU content per BBL: 6.287

Nomenclature: Fuel oil, diesel (MMS) AFPID 9140/1
Product code: DFS
MBTU content per BBL: 5.825

Nomenclature: Fuel oil burner, low sulfur MIL-F-859E
Product code: FSL
MBTU content per BBL: 6.287

Nomenclature: Kerosene, FED-VV-K-211D
Product code: KSN
MBTU content per BBL: 5.825

Nomenclature: Kerosene, deodorized, FED-VV-K-220A
Product code: KSD
MBTU content per BBL: 5.825

Nomenclature: Fuel oil, burner, Navy special MIL-F-859E (NATO F-77)
Product code: NSF
MBTU content per BBL: 6.287

Nomenclature: Slop oil, off specification product for which reblending is anticipated
Product code: SLP
MBTU content per BBL: 4.750

Nomenclature: Fuel oil reclaimed-reclaimed slop oil used as burner fuel oil
Product code: FOR
MBTU content per BBL: 5.000

Nomenclature: Oil crude/(shale)
Product code: SCR
MBTU content per BBL: 6.287

Nomenclature: Turbine fuel, JP4 (shale)
Product code: SP4
MBTU content per BBL: 5.334

Nomenclature: Turbine fuel, JP5 (shale)
Product code: SP5
MBTU content per BBL: 5.670

Nomenclature: Fuel oil diesel, DFM (shale)
Product code: SFM
MBTU content per BBL: 5.825

Nomenclature: Fuel oil, FS6 (shale)
Product code: SS6
MBTU content per BBL: 6.287

Note 1: Include NG, LPG, CNG, or LNG used for mobility.

MEA 2 CARD GRAPHIC:

MEA	2	DODAAC	CY MO	PC	OPENING INVENTORY	ISSUES	COMMERCIAL RECEIPTS	DOD RECEIPTS	CLOSING INVENTORY
XXX	X	XXXXXX	XX XX	XXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
1-3	5	7-12	14-17	19-21	23-29	31-37	39-45	47-53	55-61

SEE PARA 3-1

SEE PARA 3-2 FOR DETAILED INSTRUCTIONS

CARD COLUMNS 1-22 USED FOR IDENTIFIERS

NOTE: MEA 2 CARD USED TO REPORT INVENTORY OF PRODUCT.

FIGURE 3-1: MEA 2 CARD GRAPHIC

MEA 3 CARD GRAPHIC:

MEA 3		DODAAC	CY MO	PC	MOBILITY CONSUMPTION	FACILITY CONSUMPTION	ZERO FILL	LOSS/ DOWNGRADE	CREDIT CARD/ IDENTAPLATE	TOTAL CONSUMP
1-3	5	7-12	14-17	19-21	23-28	30-35	37-42	44-49	51-56	58-63
XXX	X	XXXXXX	XXXX	XXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX

SEE PARA 3-1

SEE PARA 3-3 FOR DETAILED INSTRUCTIONS

CARD COLUMNS 1-22 USED FOR IDENTIFIERS

NOTE: LOSS IS ALSO REPORTED ON THE MEA 2 CARD AS AN ISSUE.

NOTE: CREDIT CARD/IDENTAPLATES ARE NOT INCLUDED ON THE MEA 2 CARD AS AN ISSUE.

FIGURE 3-2: MEA 3 CARD GRAPHIC

MEA 4 CARD GRAPHIC:

MEA 4	DODAAC	CY MO	PC
1-3 5	7-12	14-17	19-21
XXX X	XXXXXX	XXXX	XXX

SEE PARA 3-1

CARD COLUMNS 1-22 USED FOR IDENTIFIERS

NON BULK ISSUES INTO AF CONSUMP-TION	NON BULK ISSUES INTO NAVY CONSUMP-TION	NON BULK ISSUES INTO MARINE CONSUMP-TION	ALL ISSUES INTO NON DOD CONSUMP-TION	BULK TRFS TO OTHER ARMY/ARMY RESERVE	ISSUES TO DOD BULK	ZERO FILL
23-27	29-33	35-39	41-45	47-51	53-57	59-63
XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX

SEE PARA 3-4 FOR DETAILED INSTRUCTIONS

NOTE: ALL DATA FIELDS ON THE MEA 4 CARD (CARD COLUMNS 23-63) MUST CONTAIN FIVE CHARACTERS.

FIGURE 3-3: MEA 4 CARD GRAPHIC

CLOSING INVENTORY:

Opening Inventory	(-) Issues	(+) Commercial Receipts	(+) DOD Receipts	= CLOSING INVENTORY
MEA2 CC 23-29	(-) MEA2 CC 31-37	(+) MEA2 CC 39-45	(+) MEA2 CC 47-53	= MEA2 CC 55-61
0003724	(-) 0020329	(+) 0019389	(+) 0000000	= 0036684

NOTE: All DATA FIELDS ON THE MEA 2 CARD (CARD COLUMNS 23-61) MUST CONTAIN SEVEN CHARACTERS.

NOTE: OPENING INVENTORY MUST EQUAL PREVIOUS MONTH'S CLOSING INVENTORY.

FIGURE 3-4: CLOSING INVENTORY

ISSUES:

MOBILITY CONSUMPTION	+ FACILITY CONSUMPTION	+ LOSS/ DOWN GRAD	+ NON BULK AF	+ NON BULK USN	+ NON BULK USMC	+ ISSUES TO NON DOD	+ BULK TRANS OTHER ARMY AND USAR	+BULK TRANS DOD	=TOTAL ISSUES
MEA3CC	+ MEA3CC	+ MEA3CC	+ MEA4CC	+ MEA4CC	+ MEA4CC	+ MEA4CC	+ MEA4CC	+ MEA4CC	=MEA2CC
23-28	+ 30-35	+ 44-49	+ 23-27	+ 29-33	+ 35-39	+ 41-45	+ 47-51	+ 53-57	= 31-37
007634	(+) 000000	(+)000000	(+) 09483	(+)01246	(+)00000	(+)01689	(+)00265	(+)00012	(=)0020309

NOTE: ISSUES ON THE MEA 2 CARD MUST EQUAL THE TOTAL OF THE ABOVE LISTED CARD COLUMNS.

FIGURE 3-5: ISSUES

DEIS I TOTAL ISSUES:

	OPEN	ISSUES	COMM RCPT	DOD RCPT	CLOSE
MEA 2 DODAAC 8512 JP/4	0037624	0020329	0019389	0000000	0036684

	MOBILITY	FACILITY	ZEROS	LOSS/ DOWNGRADE	CREDIT/ IDENTAPLATE	TOTAL CONSUMPTION
MEA 3 DODAAC 8512 JP/4	007634	000000	000000	000000	004146	011780

	USAF	NAVY	USMC	OTHER	ARMY BULK	OTHER BULK	ZERO FILL
MEA 4 DODAAC 8512 JP/4	09483	01246	00000	01689	00265	00012	00000

NOTE: INCLUDE ONLY THE DATA FIELDS WITHIN THE BLOCKED AREA AS TOTAL ISSUES.

NOTE: REMEMBER, DO NOT INCLUDE CREDIT CARD/IDENTAPLATE PURCHASES AS AN ISSUE.

FIGURE 3-6: DEIS I TOTAL ISSUES

TOTAL CONSUMPTION:

MOBILITY CONSUMPTION	+	FACILITY CONSUMPTION	+	LOSS/ DOWNGRADE	+	CREDIT CARD/ IDENTAPLATE	=	TOTAL CONSUMPTION
MEA 3 CC	+	MEA 3 CC	+	MEA 3 CC	+	MEA 3 CC	=	MEA 3 CC
23-28		30-35		44-49		51-56		58-63
007634	(+)	000000	(+)	000000	(+)	004146	(=)	011780

NOTE: ALL DATA FIELDS ON THE MEA3 CARD (CARD COLUMNS 23-63) MUST CONTAIN SIX CHARACTERS.

FIGURE 3-7: TOTAL CONSUMPTION

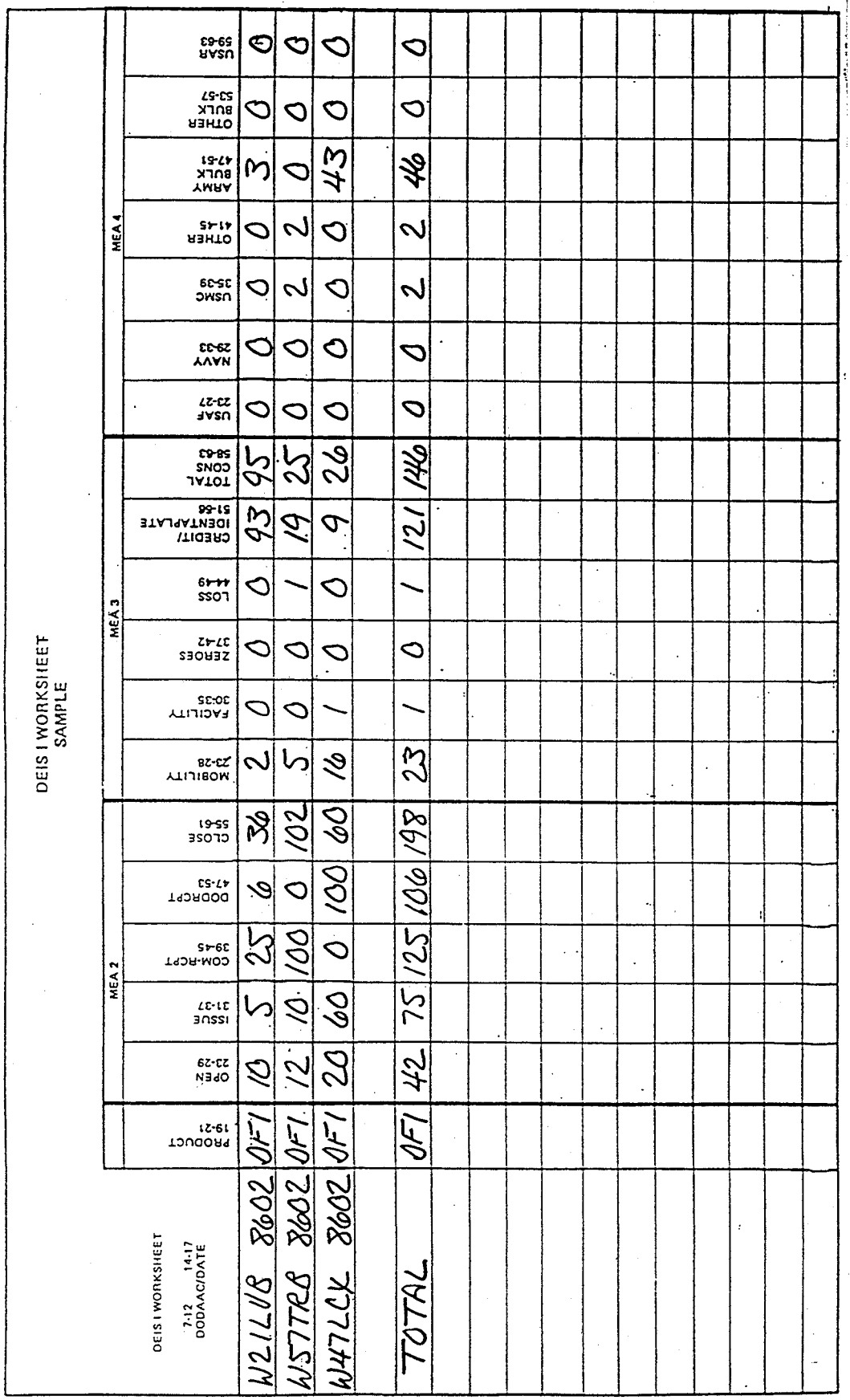


FIGURE 3-8. DEIS I WORKSHEET:

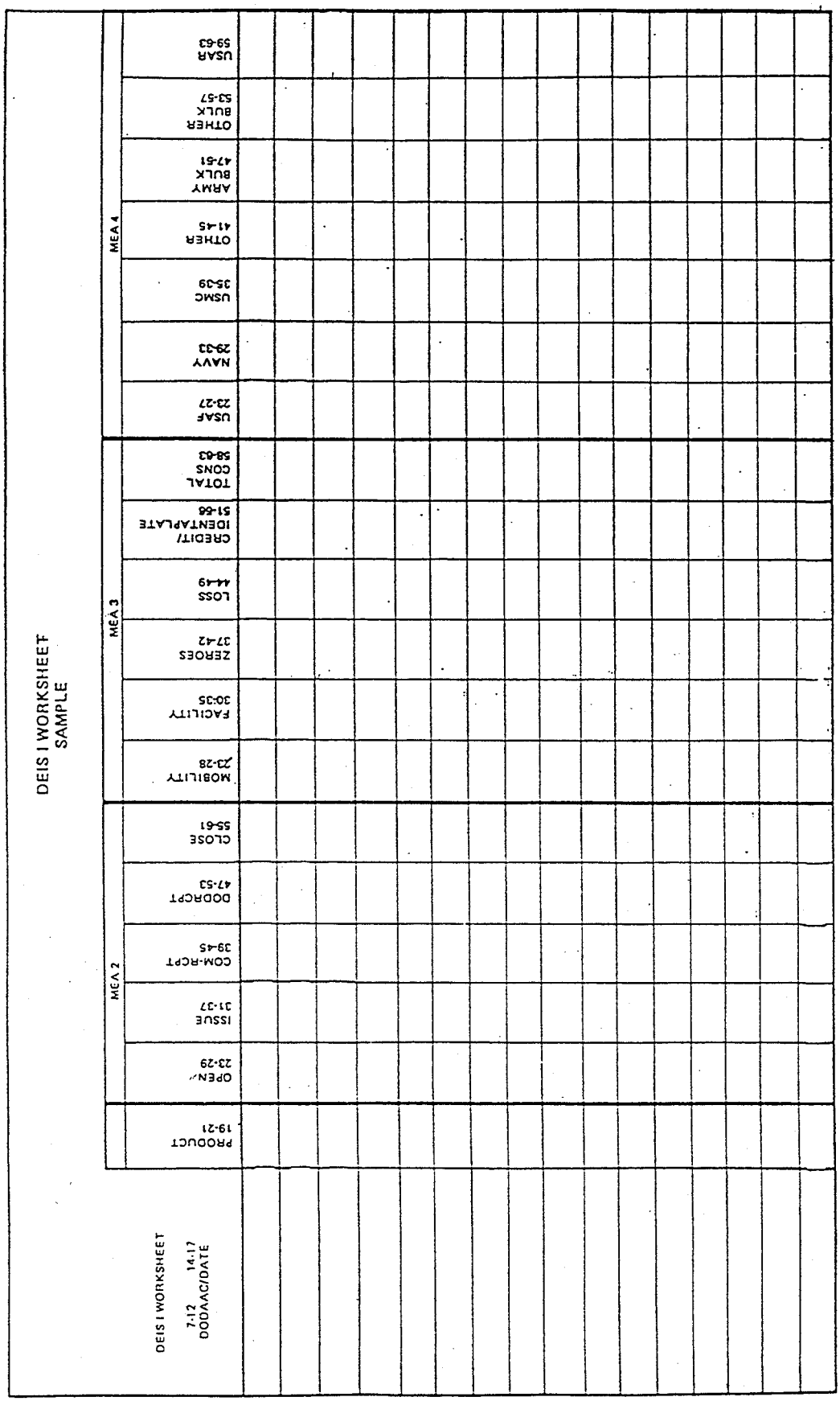


FIGURE 3-9. DEIS I WORKSHEET (BLANK)

4-Ø. DEIS-II (UTILITY ENERGY REPORT):

a. REPORT CYCLE. The DEIS-II Report shall include consumption for a full calendar month. State reports must be submitted to NGB-ARL-T, by the close of business on the fourth Wednesday (not the last Wednesday) of the month . Consumption is reported for the previous month. NGB-ARL-T publishes a report schedule annually.

b. DATA CARDS. An MEB 2 card shall be prepared for each utility-related fuel consumed or inventoried in each State. Refer to paragraph 4-2 and figure 4-1 for detailed guidance. FSD/FSR will not be reported on the DEIS II Report. Usage for these products will be extracted from the DEIS I Report.

c. REPORTED QUANTITY. All quantities reported for consumption and inventory shall be in the units shown in paragraph 4-3, column D to the nearest whole unit, i.e., ELC in megawatt hours, NAG in thousands of cubic feet, ANC in short tons, etc.

4-1. IDENTIFIER FORMAT: DEIS personnel must use the following identifier format when preparing DEIS II action cards (MEB 2 cards, columns 1 thru 22).

Card Column	Data Field
1-3	MEB
4	Blank
5	2
6	Blank
7-8	Enter last two digits of the calendar year of the reporting period. 1987=87, 1988=88, etc.
9-1Ø	Enter two digit number indicating the month of the reporting period, for example; January = Ø1, June = Ø6, Dec = 12.
11	Blank
12-17	The appropriate consuming activity address code (DODAAC), use USPFO DODAAC.
18	Blank
19-21	The approved three character product code as shown in paragraph 4-3.
22	Blank

4-2. EXPLANATION OF MEB 2 CARD DATA FIELDS.

a. IDENTIFIERS. Card columns 1-22 shall be completed in accordance with paragraph 4-1.

b. INVENTORY. Card columns 23-3Ø shall be used to report the total quantity of product in inventory at the end of a report period to the nearest whole unit. Units are found in paragraph 4-4. This data field is to be used for only those energy sources that can be inventoried - coal, propane (include propane, liquefied petroleum gas and butane) and wood. These columns shall contain inventory data or be zero filled.

c. ZERO FILL. Zero fill, card columns 32-39.

d. CONSUMPTION. Card columns 41-48 shall be used to report the total utility-related fuel consumed that is paid for with federal funds. Consumption will be reported in units, i.e., MWH, KCF, short tons, etc; NOT in MBTUs.

e. TOTAL MBTU CONSUMPTION. Card columns 5Ø-57 will be used to report the total MBTUs consumed during the report period. The total MBTU consumption (to the nearest whole number) will be calculated by multiplying the MBTU content (para 4-3), times the consumption (cc 41-48).

f. COST. Card columns 59-66 shall be used to report the total cost, rounded to whole dollars, of the product consumed as reported in columns 41-48 of this card. Utility statements for energy sources such as electricity, natural gas, steam and hot water, shall be used to obtain the total cost data. The total cost is the "bottom line" figure including demand and other fixed charges. Cost determination of inventoried products may not be straightforward. These products are purchased one or more times and may be used in one or over several reporting periods. For such products, the stock fund unit price and the total consumption quantity shall be used to determine total cost. For non-stock fund inventoried products, determine the replacement cost by multiplying the current market unit price by the number of units consumed. Report only the cost that is federally supported.

4-3. OTHER DEIS II DATA CARDS. DOD 5126.46-M and AR 11-27 indicate that MEB 2 cards for family housing and MEB 3, 4, 5, 6 and 7 cards may be submitted. The only DEIS II cards to be submitted to NGB-ARL-T are the MEB 2 cards for each product your State ARNG has in inventory or has consumed. NGB-ARL-T will submit MEB 3, 4, 5, 6, and 7 cards as needed.

4-4. PRODUCTS, PRODUCT CODES, AND MBTU CONTENT VALUES FOR DEIS II REPORTING:

A PRODUCT	B PRODUCT CODE	C REPORTING MBTU CONTENT	D REQUIREMENTS
Coal, anthracite	ANC	25.4 MBTU/short	Report in short tons
Coal, bituminous	COL	24.58 MBTU/ short tons	Report in short tons
Electricity	ELC	3.413 MBTU/MWH	Report in megawatt hours (MWH) for all commercially purchased electricity.
Fuel oil-reclaimed	FOR	5 MBTU/barrel	Report in barrels
Geothermal	GEO	.ØØ134 MBTU/pound of steam delivered	Report in pounds of steam for self-generated geothermal
Geothermal Electricity	GLC	.ØØ3412 MBTU/KWH	Report in kilowatt hours (KWH) for electricity self-generated from geothermal. Do not report if it is reported as GEO or ELC
Hydroelectric	HYD	.ØØ3412 MBTU/KWH	Report in KWH for self-generated hydroelectric power
Natural Gas	NAG	1.Ø31 MBTU/KCF	Report in thousand cubic ft (KCF)
Photovoltaic	PHO	.ØØ3412 MBTU/KWH	Report in kilowatt

A PRODUCT	B PRODUCT CODE	C REPORTING MBTU CONTENT	D REQUIREMENTS
			Do not report if it is reported as ELC
Propane/LPG/Butane	PPG	.095 MBTU/gal	Report in gallons
Purchased steam or hot water	SHW	.00134 MBTU/pound of steam delivered	Report in pounds of steam
Refuse derived fuel	RDF	6 MBTU/Short Ton	Report in short tons
Slop oil	SLP	4.75 MBTU/barrel	Report in barrels
Solar thermal	SOL	1	Report in MBTU for self-generated solar thermal actually used
Wind power	WND	.003412 MBTU/KWH	Report in kilowatt hours (KWH) for self-generated wind power. Do not report if it is reported as ELC
Wood	WUD	17 MBTU/Short Ton	Report in short tons for wood pellets, chips and logs

4-5 COMMON CONVERSIONS.

4-5-1. ELECTRICITY:

KILOWATT TO MEGAWATT

1000 KWH = 1 MWH
K = 1000
M = 1,000,000

EXAMPLE:

62000 KWH = 62 MWH
62000 X .001 = 62
87360 KWH = 87.36 MWH
87360 X .001 = 87.36

PRACTICE:

LOCATION A : REPORTS 84638 KWH AT $8064.
LOCATION B : REPORTS 103,000 KWH AT $9785.
LOCATION C : REPORTS 243,240 KWH AT $22842.

A =	84.6	$8064
B =	103	9785
C =	243.2	22842
	430.8 MWH	$40691

431 (CONSUMPTION) X 3.413 (MBTU FACTOR) = 1471 MBTUS
$40691 (TOTAL COST) DIVIDED BY 431 (CONSUMPTION) = $94 PER MWH

4-5-2. NATURAL GAS:

CUBIC FEET TO THOUSAND CUBIC FEET

CF = CUBIC FEET
CCF = HUNDRED CUBIC FEET
KCF = THOUSAND CUBIC FEET

EXAMPLE:

4000 CUBIC FEET = 4 KCF (THOUSAND CUBIC FEET)
4000CF = 4KCF
4000 X .001 = 4

4000 CF = 40 CCF (HUNDRED CUBIC FEET)
40 CCF = 4 KCF
40 X .1 = 4

PRACTICE:

7780 CF = 7.78 OR 8 KCF
7780 X .001 = 7.78 = 8
7780 CCF = 778 KCF
7780 X .1 = 778

REMEMBER; TO CONVERT CF TO KCF MULTIPLY BY .ØØ1 , OR DIVIDE BY 1ØØØ. TO CONVERT CCF TO KCF MULTIPLY BY .1 , OR DIVIDE BY 1Ø.

THERMS TO THOUSAND CUBIC FEET

EXAMPLE:

THERMS X .1 = KCF
2975 THERMS X .1 = 297.5 = 298 KCF

PRACTICE:

LOCATION A REPORTS 54 THERMS AT $28.
LOCATION B REPORTS 2975 THERMS AT $1Ø79.
LOCATION C REPORTS 414 THERMS AT $174.

A: 54 X .1 = 5.4
B: 2975 X .1 = 297.5
C: 414 X .1 = 41.4
344.3 OR 344 KCF

344 X 1.Ø31 = 354.6 = 355 MBTU
COST $28 + 1Ø79 + 174 = $1281

$1281 (TOTAL COST) DIVIDED BY 344 (TOTAL UNITS CONSUMED) = $3.72 (PER KCF)

MEB 2 CARD GRAPHIC:

MEB 2	CY MO	DODAAC	PC	INVENTORY	ZERO FILL	TOTAL CONSUMPTION	TOTAL MBTU CONSUMPTION	TOTAL COST
XXX X	XXXX	XXXXXX	XX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
1-3 5	7-8	12-17	19-21	23-30	32-39	41-48	50-57	59-66

SEE PARA 4-1

SEE PARA 4-2 FOR DETAILED INSTRUCTIONS

CARD COLUMNS 1-22 ARE USED FOR IDENTIFIERS

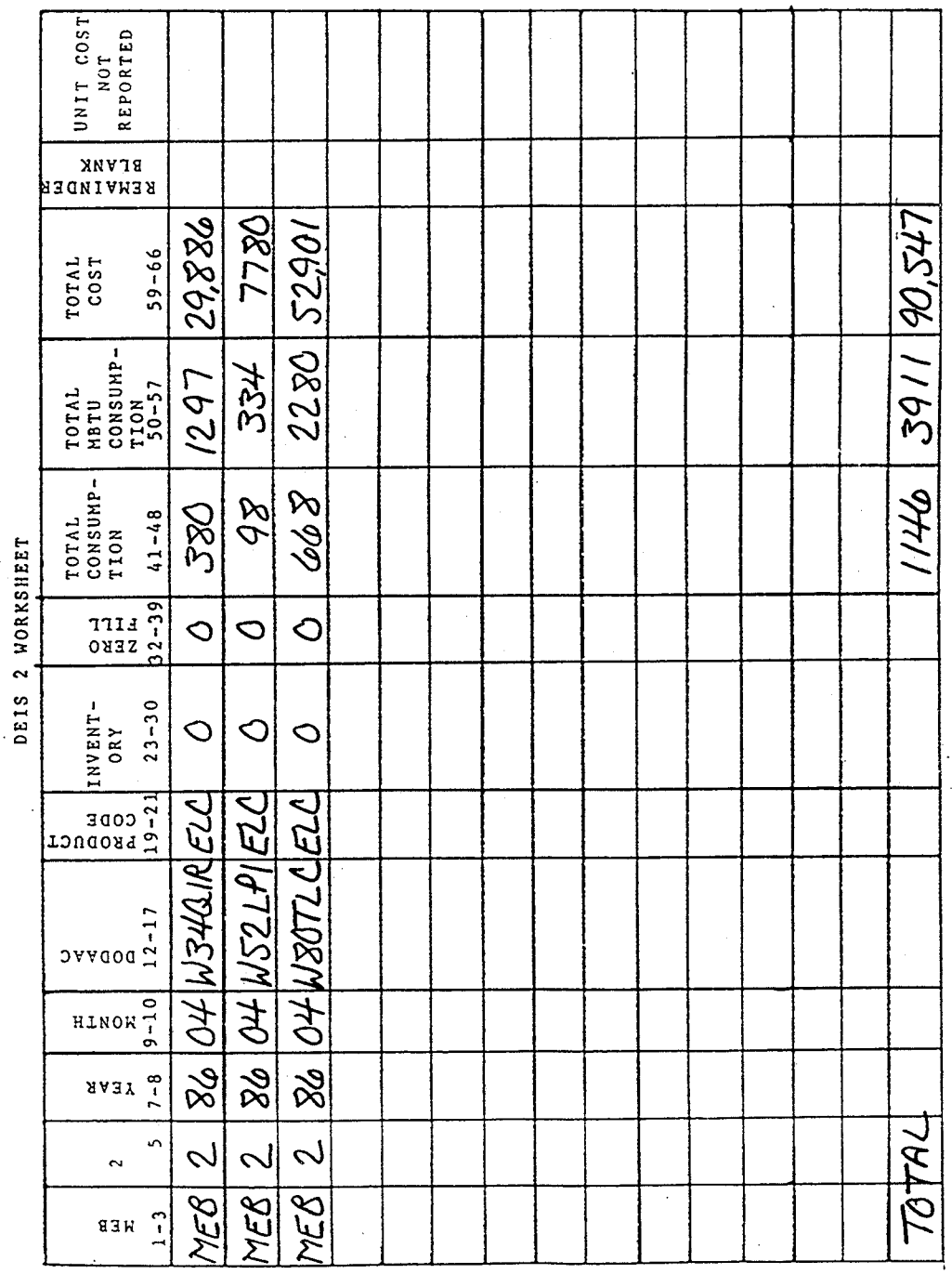
NOTE: EACH DATA FIELD ON THE MEB 2 CARD (CARD COLUMNS 23-66) MUST CONTAIN EIGHT CHARACTERS.

NOTE: REPORT TOTAL CONSUMPTION IN UNITS, I.E., MWH FOR ELECTRICITY, KCF FOR NATURAL GAS, SHORT TONS FOR COAL, ETC.

NOTE: REPORT ACTUAL COST FROM UTILITY COMPANY BILL WHEN POSSIBLE.

NOTE: MBTU CONTENT FACTORS ARE FOUND IN PARA 4-3, COLUMN C.

FIGURE 4-1: MEB 2 CARD GRAPHIC



DEIS 2 WORKSHEET

MEB 1-3	2 5	YEAR 7-8	MONTH 9-10	DODAAC 12-17	PRODUCT CODE 19-21	INVENTORY 23-30	ZERO FILL 32-39	TOTAL CONSUMPTION 41-48	TOTAL MBTU CONSUMPTION 50-57	TOTAL COST 59-66	REMAINDER BLANK	UNIT COST NOT REPORTED
MEB	2	86	04	W34QIR	ELC	0	0	380	1297	29,886		
MEB	2	86	04	W52LPI	ELC	0	0	98	334	7780		
MEB	2	86	04	W80TLC	ELC	0	0	668	2280	52,901		
TOTAL								1146	3911	90,547		

FIGURE 4-2: DEIS II WORKSHEET (EXAMPLE)

DEIS 2 WORKSHEET

MEB 1-3	2 5	YEAR 7-8	MONTH 9-10	DODAAC 12-17	PRODUCT CODE 19-21	INVENT-ORY 23-30	ZERO FILL 32-39	TOTAL CONSUMP-TION 41-48	TOTAL MBTU CONSUMP-TION 50-57	TOTAL COST 59-66	REMAINDER BLANK	UNIT COST NOT REPORTED

FIGURE 4-3: DEIS II WORKSHEET (BLANK)

5. DEIS CORRECTION PROCEDURES: Correction of previously submitted DEIS I or DEIS II data will be accepted at any time for only the current fiscal year. Changes will not be submitted through normal DEIS report channels. All corrections to DEIS will be submitted on a standard Disposition Form, DA 2496. For each card changed, two line entries are required: the first is a duplicate of the erroneous data submitted; the second, the corrected information (see figure 5-1 DEIS REPORT CORRECTIONS). Corrections will be coordinated with the Services Branch, NGB-ARL-T, AUTOVON 225-3312, prior to submission.

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
(11-27c)	DEIS I Report Corrections

TO: HQDA
ATTN: NGB-ARL-T
Washington, DC
20310-2500

FROM: STATE NAME
DODAAC

DATE

CMT 1

1. The following changes are to be made to the DEIS I Report for the month of June 86 (8606).

DEIS I WORKSHEET
SAMPLE

DEIS I WORKSHEET 7-12 DODAAC 14-17 DATE		MEA 2					MEA 3						MEA 4						
	PRODUCT 19-21	OPEN 23-29	ISSUE 31-37	COM-RCPT 39-45	DODRCPT 47-53	CLOSE 55-61	MOBILITY 23-28	FACILITY 30-35	ZEROES 37-42	LOSS 44-49	CREDIT/ IDENTAPLATE 51-56	TOTAL CONS 58-63	USAF 23-27	NAVY 29-33	USMC 35-39	OTHER 41-45	ARMY & USAR BULK 47-51	OTHER BULK 53-57	ZEROS 59-63
REPORTED	JF1	981	476	329	0	834	450	0	0	15	90	555	2	7	0	0	2	0	0
CORRECTED	JF1	981	476	329	0	834	250	0	0	15	90	325	2	7	0	0	202	0	0
REPORTED	MU5	85	0	0	25	110	0	0	0	0	85	85	0	0	0	0	0	0	0
CORRECTED	MU5	85	50	0	25	60	50	0	0	0	35	85	0	0	0	0	0	0	0
REPORTED	JP4	100	1251	2251	0	1100	751	0	0	0	49	800	0	0	0	0	500	0	0
CORRECTED	JP4	100	251	600	0	449	200	0	0	0	50	250	0	0	0	0	51	0	0

2. Point of contact this office: (Your Name and Autovon number).

FIGURE 5-1. DEIS I REPORT CORRECTIONS (EXAMPLE)

DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED GPO : 1987 O 191-043

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
(11-27c)	DEIS I Report Corrections

TO FROM DATE CMT 1

HQDA
ATTN: NGB-ARL-T
Washington, DC
20310-2500

1. The following changes are to be made to the DEIS I Report for the month of

DEIS I WORKSHEET
SAMPLE

DEIS I WORKSHEET 7-12 DODAAC/DATE 14-17		MEA 2					MEA 3						MEA 4						
	PRODUCT 19-21	OPEN 23-29	ISSUE 31-37	COM-RCPT 39-45	DODRCPT 47-53	CLOSE 55-61	MOBILITY 23-28	FACILITY 30-35	ZEROES 37-42	LOSS 44-49	CREDIT/ IDENTAPLATE 51-56	TOTAL CONS 58-63	USAF 23-27	NAVY 29-33	USMC 35-39	OTHER 41-45	ARMY & USAR BULK 47-51	OTHER BULK 53-57	ZEROS 59-63

2. Point of contact this office:

FIGURE 5-2. DEIS I REPORT CORRECTIONS SHEET

DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED GPO : 1987 O 191-043

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
(11-27c)	DEIS II Report Corrections

TO: HQDA
ATTN: NGB-ARL-T
Washington, DC
20310-2500

FROM: STATE NAME
DODAAC

DATE:

CMT 1

1. The following changes are to be made to the DEIS II Report for the month of July 86 (8607).

DEIS 2 WORKSHEET

MEB 1-3	2 5	YEAR 7-8	MONTH 9-10	DODAAC 12-17	PRODUCT CODE 19-21	INVENT-ORY 23-30	ZERO FILL 32-39	TOTAL CONSUMP-TION 41-48	TOTAL MBTU CONSUMP-TION 50-57	TOTAL COST 59-66	REMAINDER BLANK	UNIT COST NOT REPORTED
REPORTED		87	06	W22222	ELC	Ø		385	1314	34,650		
CORRECTED		87	06	W22222	ELC	Ø		400	1365	36.000		
REPORTED		87	06	W22222	NAG	Ø		100	103	600		
CORRECTED		87	06	W22222	NAG	Ø		241	248	1446		

2. Point of contact this office: (Name and Autovon number)

FIGURE 5-3. DEIS II REPORT CORRECTIONS (EXAMPLE)

DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED GPO : 1987 O 191-043

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
(11-27c)	DEIS II Report Corrections

TO | FROM | DATE | CMT 1

HQDA
ATTN: NGB-ARL-T
Washington, DC
20310-2500

1. The following changes are to be made to the DEIS I Report for the month of

DEIS 2 WORKSHEET

MEB 1-3	2 5	YEAR 7-8	MONTH 9-10	DODAAC 12-17	PRODUCT CODE 19-21	INVENT-ORY 23-30	ZERO FILL 32-39	TOTAL CONSUMP-TION 41-48	TOTAL MBTU CONSUMP-TION 50-57	TOTAL COST 59-66	REMAINDER BLANK	UNIT COST NOT REPORTED

2. Point of contact this office:

FIGURE 5-4. DEIS II REPORT CORRECTIONS SHEET

DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED GPO : 1987 O 191-043

APPENDIX E

NOMINATION COMPOSITION - DIRECTOR'S AWARD FOR ENERGY CONSERVATION

E-1. Nominations will be submitted by narrative composition as outlined in paragraph (E-3). It will include an energy consumption results chart (fig E-1) and will be forwarded to NGB-ARL-T, WASH, DC 20310-2500.

E-2. The EAC will review the nominations and forward its recommendations to the Chief, National Guard Bureau.

E-3. Each nomination should consist of a cover page and a narrative which should not exceed five pages. Supplemental material such as photographs or relevant documentation may be appended; however, these materials will not be directly considered in the evaluation process.

a. The cover page should contain the following information:

(1) Award category: Secretary of the Army Energy Conservation Award.

(2) Nominee information: Name of State/Territory and complete mailing address.

(3) Nominator information: Name; title and/or position; complete mailing address; telephone number (Autovon and Commercial).

(4) A statement as to whether or not nominee has/have received any other award for this achievement. (This is not an evaluation factor.)

(5) An unclassified summary of the nomination, 75 to 100 words, highlighting the significance of the achievement, suitable for use in an awards presentation.

b. Each narrative should consist of eight sections addressing the eight criteria set forth below. Compliance with the prescribed guidelines is strongly recommended since deviations in format tend to delay the selection and notification process of the awards program.

(1) Total Energy Saved. To the extent data is available, state the amount of energy saved by the program in the award year compared to the year prior to the award year and to the baseline year, FY 85. Express both the absolute amount of energy saved in BTUs and the incremental percentage change. Consumption over baseline quantities may be justified for those states/territories which experience significant changes over which they cannot exercise control. Such changes include mission changes, expansion of the installation, tempo of operations changes, extensive new construction, or weather.

(2) Description of Actions Taken. Provide a detailed description of the action(s) taken to achieve the savings identified in Section (1) "Total Energy Saved." Include an explanation, where applicable, of: short-term (low or no cost) facilities conservation measures, long-term facilities conservation measure, mobility operations fuel saving measures, and organizational support (e.g., command emphasis and commitment, use of building monitors, involvement of housing residents, etc.)

(3) Project Life. Provide an estimate of how long the energy conservation actions are expected to stay in effect and estimate the continuing savings.

(4) Transferability. Provide an assessment of the project's potential applications within the Army, the Department of Defense, and

the entire Federal Government. Describe efforts to implement the action elsewhere, or efforts to provide documentation for use by other government agencies. If an action has been taken, describe the new activities and state the impacts that were the direct or indirect results from the initiative. Include an account of the energy savings and the method for measurement.

(5) Innovation. Does the effort have innovative features that make it unique? If yes: List and describe each feature; Describe the benefits of the innovative feature (i.e., technical, educational, economic); If the impacts were measured, specify the results and the method of measurement.

(6) Energy Saved Compared to Dollars Spent. Divide the total number of BTUs saved b y the total number of dollars spent for the project. Include all future energy savings and future dollar expenditures (MCA, ECIP, OMA, utilities "J" account, others) associated with the energy conservation actions. Express future dollar expenditures in current year dollars. If precise data is unavailable, use best estimate and indicate the basis for the estimates.

(7) Outreach and Education. Does this effort have an educational, awareness, and/or outreach component? If yes: Describe the features of the educational, awareness, or outreach component; Describe the type and size of the target audience benefiting from the project; Describe the subject areas covered by this project; and Indicate any measurable impacts of this project, including the method of measurement.

(8) User Behavior. Does this effort have a positive and long-term effect on the energy consumption patterns of a target audience? If yes: Describe the type and size of the target audience; Indicate the methods for influencing the behavior change; and State th methodology and/or techniques used for determining the improvements in user behavior. Indicate follow-up provided and/or survey technique.

Item	A (1) Base FY	B (2) Previous FY	C (3) ADJ Previous FY	D (4) % Change C-A X 100
Fixed facilities energy consumption MBTU (DEIS II)	*	*	*	*
Mobility operations energy consumption MBTU (DEIS I)	*	*	*	*
Total energy consumption MBTU (Fixed and Mobility)	*	*	*	*

*Column C will equal Column B if no adjustments are made.

1. Column A, "Base FY", information is published by NGB-ARL-T under separate cover.

2. Column B, "Previous FY", data will be extracted from the September DEIS report for the fiscal year under evaluation.

3. Column C, "Adjusted Previous FY", will contain the same information as column B, unless adjustments are made in accordance with paragraph 3(e) of this appendix. All changes must be approved by NGB-ARL-T prior to inclusion in this report.

4. Column D, "% Change", will be computed as illustrated in the sample form.

FIGURE E-1: ENERGY CONSUMPTION RESULTS CHART FORMAT

APPENDIX F

INTERNAL CONTROL REVIEW CHECKLIST

TASK: ARNG Energy Program
SUBTASK: ARNG Energy Program Development
THIS CHECKLIST: Administering the ARNG Energy Program
ASSESSABLE UNIT: The assessable unit for this checklist is the Energy Conservation Administrator of each State/territory.
IMPLEMENTATION: See AR 11-2 for specific requirements of the Internal Control Program.

ORGANIZATION:
ACTION OFFICER:
REVIEWER:
DATE COMPLETED:

EVENT CYCLE: Annual Energy Monitoring

STEP 1: Ensure an Energy Plan, SOP, or Regulation is on hand and current.

RISK: Inadequate plan to conduct a meaningful program.

CONTROL OBJECTIVE: Adequate plan to include all functional areas of Energy Management are covered.

CONTROL TECHNIQUE: Review the plan for content and to ensure it is current.

TEST QUESTION:
1. Has a comprehensive Energy Plan/SOP/Regulation been developed?
RESPONSE:
YES NO NA
REMARKS*

2. Is the plan updated/current?
RESPONSE:
YES NO NA
REMARKS*

STEP 2: Ensure there is Command Involvement in the Energy Management Program.

RISK: Inadequate command involvement and emphasis will cause Energy Management to be neglected.

F-1 CONTROL OBJECTIVE: Adequate Command Involvement to provide the proper emphasis in critical areas of Energy Management.

CONTROL TECHNIQUE: Review various programs to determine command involvement.

TEST QUESTION:
1. Has the command appointed an Energy Council?
RESPONSE:
YES NO NA
REMARKS*

2. Are the appointments current?
RESPONSE:
YES NO NA
REMARKS*

3. Does the Energy Council meet on a regular basis?
RESPONSE:
YES NO NA
REMARKS*

4. Has the command submitted for the Director Army National Guard Energy Award Program?
RESPONSE:
YES NO NA
REMARKS*

5. Has the command assigned goals to subordinate activities?
RESPONSE:
YES NO NA
REMARKS*

STEP 3: Ensure subordinate activities are aware of Energy Management Programs, that distribution, publicity and energy awareness have been brought to their attention.

RISK: Inadequate program distribution, publicity, and awareness will cause the Energy Management Program to fail.

CONTROL OBJECTIVE: Adequate publicity, awareness, and distribution of Energy Management to have subordinate activities involved in the program.

CONTROL TECHNIQUE: Review plans and programs for adequate distribution, publicity, and awareness so that subordinate activities are knowledgeable as to Energy Management.

TEST QUESTION:
1. Has the command published letters, bulletins, messages, etc. on Energy Management?
RESPONSE:
YES NO NA
REMARKS*

2. a. Does the command have an Energy Management Newsletter?
RESPONSE:
YES NO NA
REMARKS*

b. Are goals published?
RESPONSE:
YES NO NA
REMARKS*

3. Has a Command Energy Awareness Program been instituted?
RESPONSE:
YES NO NA
REMARKS*

4. Has a Command Energy Award Program been instituted?
RESPONSE:
YES NO NA
REMARKS*

5. Are subordinate activities appointing Energy Monitors?
RESPONSE:
YES NO NA
REMARKS*

STEP 4: Ensure the command is monitoring progress of subordinate activities in meeting Energy Management Goals.

RISK: Inadequate monitoring of programs will cause Energy Management Programs to fail.

CONTROL OBJECTIVE: Adequate monitoring of progress toward accomplishment of objectives to allow the Energy Management Program's accomplishment.

CONTROL TECHNIQUE: Review data available to check the command's monitoring of the Energy Management Program

TEST QUESTION:
1. Is the command monitoring subordinate activities' progress toward achieving goals?
RESPONSE:
YES NO NA
REMARKS*

2. Are reports on consumption timely and accurate?
RESPONSE:
YES NO NA
REMARKS*

3. Have milestones been established to ensure goals are on track and will be met?
RESPONSE:
YES NO NA
REMARKS*

4. Is the progress of the command towards meeting goals monitored at Command Energy Council meetings?
RESPONSE:
YES NO NA
REMARKS*

STEP 5: Ensure the command is maintaining energy usage data.

RISK: Inadequate historical data precludes analysis of energy usage and does not provide a basis to set goals and allocations.

CONTROL OBJECTIVE: Adequate energy usage data will allow identification of goals.

CONTROL TECHNIQUE: Review energy records to see if qualitative records are being maintained.

TEST QUESTION:
1. Has command reported Defense Energy Information System (DEIS) Report accurately?
RESPONSE:
YES NO NA
REMARKS*

2. Are monthly total consumption figures maintained for all facilities in Command (Armory/Non-Armory)?
RESPONSE:
YES NO NA
REMARKS*

3. Are quarterly and annual records maintained for comparisons against previous years usage by facility (Armory/Non-Armory)?
RESPONSE:
YES NO NA
REMARKS*

4. Are records maintained giving the cost per square foot for energy usage?
RESPONSE:
YES NO NA
REMARKS*

* Explain rationale for YES responses or provide cross-reference to where rationale can be found. For NO responses, cross-reference to where corrective action plans can be found. If response is NA, explain rationale.

BY ORDER OF THE SECRETARY OF THE ARMY:

HERBERT R. TEMPLE, JR.
Lieutenant General, USA
Chief, National Guard Bureau

OFFICIAL:
HARRY M. LESLEY
Colonel, USAF
Executive, National Guard Bureau

DISTRIBUTION: Special (TAG, USPFO)