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METRIC

MIL-HDBK-2053
18 January 1995

DEPARTMENT OF DEFENSE
MILITARY HANDBOOK

REQUIREMENTS FOR EMPLOYING STANDARD BATTERIES

AMSC N/A FSC 61GP

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FOREWORD

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Code 609, Bldg 2949, NAVSURFWARCENDIV, 300 Highway 361, Crane, IN 47522-5001 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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1. SCOPE

1.1 Scope. This standard establishes the requirements for the use of standard batteries in the design and construction of military systems. This standard provides the methodology by which a battery type is selected and approved. Appendix A provides a list of organizations in the Department of Defense that can assist with battery standardization and development issues. Appendix B contains a list of general battery specifications. Appendix C contains instructions for the preparation of a battery selection report which will be used to seek approval for use of non-preferred batteries.

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Standards. The following standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

STANDARDS

MILITARY

MIL-STD-961	-	Military Specifications and Associated Documents, Preparation of
MIL-STD-1860	-	Batteries, Non-rechargeable Selection and use of

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

NAVSO-P-3676	-	Navy Primary and Secondary Batteries: Design and Manufacturing Guidelines
S9310-AQ-SAF-010	-	Technical Manual for Batteries, Navy Lithium Safety Program Responsibilities and Procedures

(Application for copies should be addressed to the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

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SHARP-TP-001 - Preferred Battery List for Standard Battery Systems

(Application for copies should be addressed to Commander, Code 609, Bldg 2949, NAVSURFWARCENDIV, 300 Highway 361, Crane, IN 47522-5001.)

2.2 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

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3. DEFINITIONS

3.1 Terms and definitions. The terms used in this standard are defined as follows.

3.2 Battery support activity. The battery support activity is that organization responsible for battery standardization, engineering, requirements definition, and related issues within each respective service. One of the battery support activity's functions is to assist the Program Manager in selecting that battery which best meets the overall needs of a given end item application. Appendix A provides a list of Department of Defense battery support activities that can assist the program manager with this task.

3.3 Battery. A battery consists of one or more electrically connected cells assembled in a single container with positive and negative terminals. The battery may include intercell connectors, protective devices, and other components.

3.3.1 Battery system. A battery system is composed of either (or both) of the following:

(a) Two or more electrically connected batteries that provide power to equipment.

(b) All the components required to support a battery but not integral to a battery, such as battery maintenance tools and equipment external to the system (battery chargers and conditioning devices).

3.3.2 Non-rechargeable battery. A cell or battery that is not intended to be recharged and is discarded when all the electrical energy is removed. Non-rechargeable batteries (also referred to as primary) usually are lightweight and have high capacities and energy densities. These types of batteries usually have the lowest per unit procurement cost. This type of battery is more often used for items that require light weight and long life between replacement.

3.3.3 Preferred battery. The term "preferred battery" (which includes battery systems) refers to a member of a select group of battery types that has been identified by the battery support activity as being the basis for battery standardization. The criteria for designation as a preferred battery includes such parameters as:

(a) The number of end items which can use the battery.

(b) Ability to meet end item requirements in a cost effective manner.

(c) The lack of unique design, production, or logistical requirements.

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MIL-STD-1860 contains a partial list of Army preferred batteries, and SHARP-TP-001 contains a partial list of Navy preferred batteries. The battery support activity can provide a list of preferred batteries.

3.3.4 Rechargeable battery. A cell or battery which can be rejuvenated and reused by charging is termed rechargeable (also referred to as a secondary). They are used in applications that require high discharge currents, high capacities, or cost effectiveness of multiple discharge cycles without battery replacement. Rechargeable batteries are generally heavier and, in many cases, have a higher unit cost than the equivalent primary battery.

3.3.5 Reserve battery. A cell or battery that is stored in an unactivated state and is made ready for use by adding electrolyte, reactants or, in the case of a thermal battery, by melting electrolyte (also referred to as a remotely activated battery). These batteries are generally used for one-shot high energy applications that often require very long shelf lives, for instance, missiles, artillery rounds, and sonobuoys. Reserve batteries have a much higher unit cost than either rechargeable or non-rechargeable batteries, but have significantly longer shelf lives.

3.3.6 Standard battery. A standard battery is a battery in the Federal Supply System. For the purposes of this document, a "standard battery" is one which has neither been identified as a preferred battery, or lacks the special design, production or logistical requirements to be designated as an "unique" battery.

3.3.7 Unique battery. A unique battery has been so designated due to special design, production or logistical requirements. Such batteries have a singular, or limited number of applications due to these unique requirements.

3.4 Cell. A single encased electrochemical unit which exhibits a voltage across its two terminals and is used as a component of a battery.

3.5 Equipment contractor. This term applies to both system developers and developers of electronic assemblies and subassemblies in which batteries are employed.

3.6 Government program manager (PM). The PM is the government program manager.

3.7 Battery selection report (BSR). The battery selection report is a data item that provides technical information for use by the procuring activity in selecting non-preferred batteries. Information on completing the report is provided in Appendix C.

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3.8 Performance specification. A performance specification is a general specification document which specifies the general requirements for a given group of batteries. Among the general requirements included in the performance specification are overall product performance, typical environmental tests, mounting method, electrical connections, and quality assurance provisions.

3.9 Specification sheet. The specification sheet is an extension of a general specification that covers detailed requirements for specific parts, materials, or equipment.

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4. GENERAL REQUIREMENTS

4.1 General. All equipment using any form of battery power shall be designed to use the batteries or battery systems designated as preferred. If no preferred battery or battery system meets the requirement, than a "standard" battery or battery system shall be selected. Only after all possible alternatives have been considered, will a unique battery or battery system will be proposed. Use of any battery must be coordinated with the battery support activity before a final decision is made by the equipment contractor and program manager (PM). The battery support activity should be consulted early in the development process (milestone 1) so as to ensure that concerns related to battery standardization, design, and life cycle costs are adequately addressed in the design of the system. The methodology for the equipment contractor to seek approval for the battery or battery systems is specified herein.

4.1.1 Battery systems. For the purpose of this document, batteries and battery systems shall be used interchangeably hereafter under the term "batteries."

4.2 Battery requirements. All batteries are designed according to the requirements of the appropriate military specification. Preferred batteries have been so designated due to their ability to meet the technical requirements and minimize life cycle costs for many end item applications. All batteries in the Federal Supply System not designated as preferred are designated as unique.

4.3 Standard battery categories. Batteries used in military systems can be divided into three general categories. The order of preference (highest to lowest) for battery selection for new applications are preferred batteries, standard batteries, and then unique batteries. Adding a new unique commercially available battery to the Federal Supply System is desired over designing a new battery.

4.4 Priority of implementation. The equipment contractor shall implement system battery requirements in accordance with the priority sequence as specified in 4.5 through 4.7 (see 6.3 and figure 1). Recommendations for battery selection shall be submitted to the battery support activity and PM for approval.

4.5 Preferred batteries. The equipment contractor shall make every effort to design the system around an existing preferred battery. Use of preferred batteries with commercial battery configurations and chemistries is preferred to military-unique configurations and chemistries. The current list of preferred batteries can be obtained from the battery support activity. The equipment contractor shall notify the PM and battery support activity of the proposed preferred battery.

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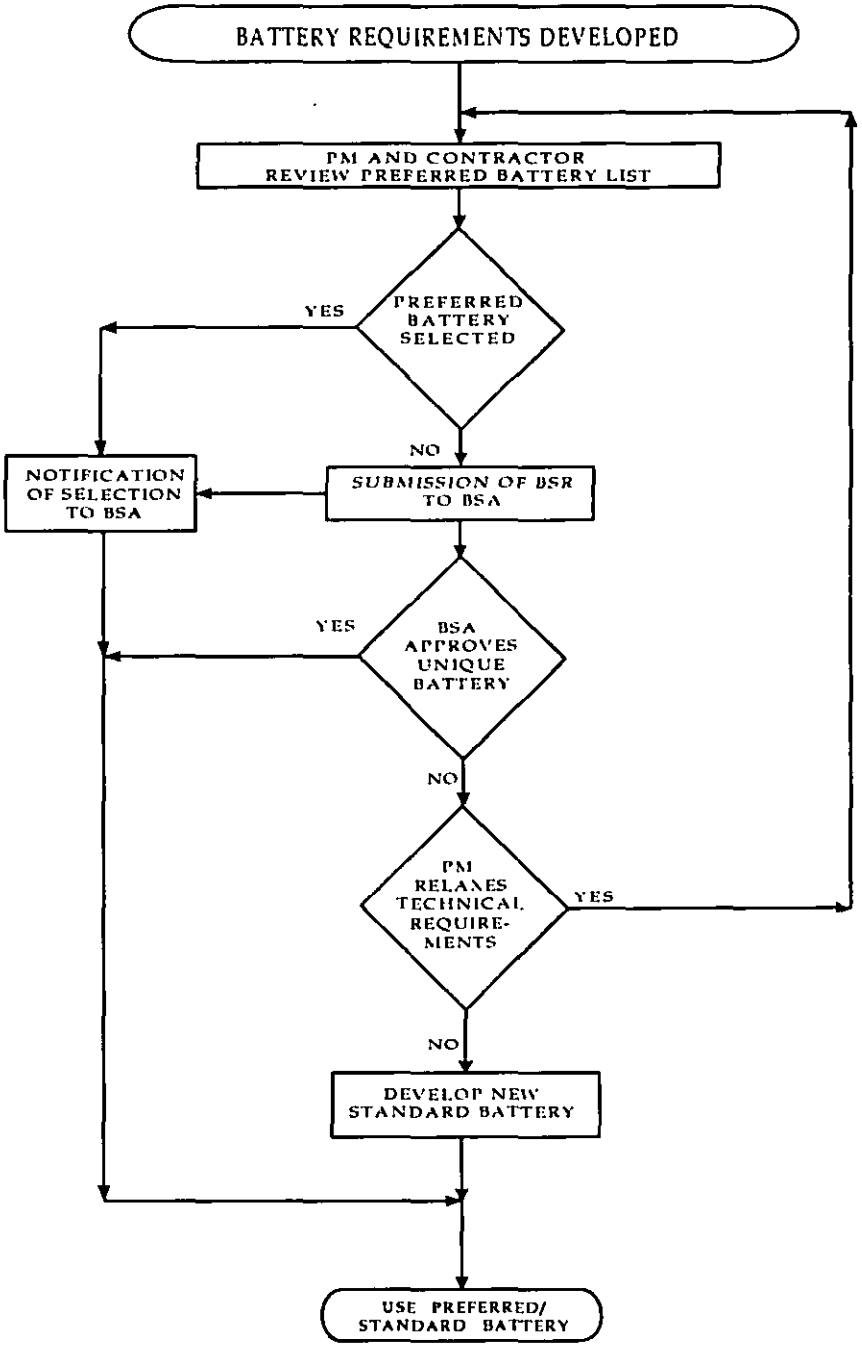

FIGURE 1. Implementation flow chart.

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4.6 Standard batteries. Standard batteries (available from the Federal Supply System) may be recommended for use by the equipment contractor when it has been determined that no preferred battery satisfies the given system application.

4.7 Submission of battery selection report (BSR). A battery selection report (BSR) (see Appendix C) shall be submitted to the battery support activity whenever a battery other than one contained in the preferred battery list is selected. The BSR allows the battery support activity to review the requirements placed on the battery to determine which, if any, standard battery best suits the application. Based on this evaluation, the selected battery will either be approved or rejected by the battery support activity. The BSR may vary by service.

4.7.1 Review of technical requirements. After a review of the BSR, it may be determined that a relaxation of the technical requirements will allow use of a preferred battery. If so determined, the PM will assess the feasibility of modifying the technical requirements and the impact on the function and mission of the system.

4.7.2 Review of selected battery. After a review of the BSR, it may be determined that a battery type other than that selected by the equipment contractor best fits the specific application.

4.7.3 Selection of unique battery. After a review of the BSR, it may be determined that no currently available preferred or standard battery meets the system requirements. The battery support activity and the PM may then permit the selection of an unique commercially available battery that best fits the specific application.

4.7.4 Criteria for designing a new battery. A new battery shall be designed only after the following criteria have been met (requests to add a new unique battery to the Federal Supply System shall be evaluated as a new design):

(a) No battery in the Federal Supply System meets the technical requirements.

(b) No battery is commercially available that can meet the technical requirements.

(c) The technical requirements cannot be modified without a detrimental impact on the function or mission of the end item.

(d) The end item cannot be modified without a detrimental impact on its function or mission.

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(e) The proposed design is determined to be more cost effective based on total life cycle costs than any inventoried battery.

All design efforts shall be coordinated through and assisted by the battery support activity. In general, new designs shall consider other potential applications, use of a commercially available chemistry, ease of production, use of common parts and materials, and overall life cycle costs including those related to maintenance, disposal, and logistics. Further details are provided in section 5.

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5. DETAILED REQUIREMENTS

5.1 Purpose. The requirements herein further define the design, quality assurance, and documentation requirements for the design and introduction of a new battery type into the Federal Supply System. The battery support activity can provide any additional specific information that might be required.

5.2 Selection of appropriate specification. A general specification shall be selected before the development of any new standard battery. A list of battery general specifications is provided in Appendix B. The equipment contractor and PM shall contact the battery support activity to determine the proper specification for the battery.

5.3 Determination of battery type required. The type of battery required shall be determined. The three types of batteries are:

(a) Non-rechargeable.

(b) Rechargeable.

(c) Reserve.

5.4 Design and manufacturing information. Detailed information on the types of applications and batteries can be found in the documents listed in Appendix B and in NAVSO P-3676. These documents also provide such information as performance, voltage, and shelf life for the various battery chemistries.

5.5 Selection of appropriate battery chemistry. Preference shall be given to the selection of commercially available chemistries over those unique to military applications. No chemistry shall be selected without proof of its safety and reliability, nor shall the selected chemistry have high logistic, maintenance, or disposal costs when compared to chemistries used in standard batteries. Justification for use of a specific chemistry shall be documented in the BSR.

5.6 Generic battery design. The following requirements shall apply to standard batteries.

5.6.1 Standard voltage. Standard batteries employ one of the following nominal voltages: 1.5, 3.0, 6.0, 12.0, or 24.0.

5.6.2 Voltage taps. Standard batteries contain no voltage taps.

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5.6.3 Physical configuration. Standard batteries are either in the form of a parallelepiped (six-sided with three sets of parallel sides, with each side perpendicular to the other two sides) or cylindrical.

5.6.4 Connectors and terminals. The connectors or terminals are selected so as to permit their use in multiple systems.

5.6.5 Venting mechanism. Standard batteries have venting mechanisms unless specifically prohibited by system requirements or by the battery support activity.

5.6.6 Personnel safety. Standard batteries are designed in accordance with all applicable service safety regulations or requirements. For example, all Navy batteries containing lithium shall meet the safety requirements of S9310-AQ-SAF-010. A list of service-specific pertinent safety requirements can be obtained by contacting the battery support activity.

5.6.7 Disposal. All batteries are designed so as to minimize costs related to their disposal.

5.8 Finalization and approval of specification sheet. After successful completion of verification testing, the specification sheet shall be finalized. The final version shall include a detailed description of the battery configuration. The final specification sheet shall be approved by the PM and the battery support activity. The specification sheet shall then be submitted to the cognizant specification preparing activity for approval.

5.9 Standard battery quality requirements. Standard batteries shall, as a minimum, conform to quality requirements as specified in their respective performance design specification. Additional quality requirements may be added by the PM or the battery support activity.

5.10 Life cycle costs. The life cycle cost of the battery shall also be considered in the development of a new standard. The areas to be included, but not limited to, in assessing life cycle costs are maintenance, disposal, unit price, state of charge capability, use of non-standard parts or configurations, storage requirements, unique support requirements (testing, charging systems, or maintenance equipment), and use of military versus commercially available chemistries.

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6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This standard establishes the requirements for the use of standard batteries in the design and construction of military systems.

6.2 Issue of DODISS. When this standard is used in acquisition, the applicable issue of the DODISS must be cited in the solicitation (see 2.1.1).

6.3 Data requirements. The following Data Item Descriptions (DIDs) must be listed, as applicable, on the Contract Data Requirements List (DD Form 1423) when this standard is applied on a contract, in order to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423:

Reference Paragraph	DID Number	DID Title	Suggested Tailoring
4.5, 4.7 Appendix C	DI-GDRQ-80650	Design Data and Calculations	Appendix C

The above DIDs were those cleared as of the date of this standard. The current issue of DOD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DIDs are cited on the DD Form 1423.

6.4 Standard Battery Systems (SBS). SBS is an element of the Navy Standard Hardware Acquisition and Reliability Program (SHARP). SHARP is composed of four standardization efforts: SBS, Standard Electronic Modules (SEM), Standard Power Supplies (SPS), and Standard Enclosure Systems (SES). SBS assists the various Department of Defense activities with new battery designs, battery selection, and replacement of existing batteries. Address all enquires about SBS and SHARP to:

Commander
Attn: Power Systems Department (Code 609)
NAVSURFWARCENDIV
300 Highway 361
Crane, IN 47522-5001
(812) 854-1593

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6.5 Timely submission and approval.

6.5.1 Submission of battery selection report (BSR). A BSR (see Appendix C) will be completed and submitted when a preferred battery will not fulfill equipment contractor needs.

6.6 Subject term (key word) listing.

Battery, nonrechargeable
Battery, primary
Battery, rechargeable
Battery, remotely activated
Battery, reserve
Battery, secondary
Battery Selection Report
Battery standardization
Battery support activity
Battery system
Connectors
Life cycle cost
Non-standard battery
Physical configuration
Safety
Standard voltage
Terminals
Venting mechanisms
Voltage taps

Custodians:
Army - ER
Navy - NW
Air Force - 99

Review activities:
Navy - AS, MC, SH
Army - AR, CR, MI
Air Force - 80
DLA - GS

Preparing activity:
Navy - NW

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APPENDIX A

LIST OF BATTERY SUPPORT ACTIVITIES IN THE DOD

10. SCOPE

10.1 Scope. This appendix is not a mandatory part of the standard. The information contained herein is intended for guidance only.

20. APPLICABLE DOCUMENTS. This section is not applicable to this appendix.

30. BATTERY STANDARDIZATION GROUPS

30.1 List of standardization and battery support groups in the Department of Defense:

Navy

Commander
Code 03E21
Naval Sea Systems Command
2531 Jefferson Davis Highway
Arlington, VA 22242-5160

Commander
AIR-536
Naval Air Systems Command
1421 Jefferson Davis Highway
Arlington, VA 22243-5360

Commander
Code 609
NAVSURWARCENDIV Crane
300 Highway 361
Crane, IN 46522-5001

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APPENDIX A

Army

US Army Communications - Electronics Command
Systems Management Directorate
Attn: AMSEL-LC-SM-S1
Fort Monmouth, NJ 07703-5000

Air Force

Sacramento Air Logistics Center, AFMC (SM-ALC/TILDC)
McClellan AFB
Sacramento, CA 95652-5990

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APPENDIX B

LIST OF GENERAL BATTERY SPECIFICATIONS

10. SCOPE

10.1 Scope. This appendix is not a mandatory part of the standard. The information contained herein is intended for guidance only. This appendix provides a list of general specifications for the design and procurement of standard batteries.

20. APPLICABLE DOCUMENTS.

20.1 Government documents.

20.1 Specifications. The following specifications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

FEDERAL

W-B-131	-	Battery Storage (Vehicular, Ignition, Lighting, and Starting)
W-B-133	-	Battery, Storage (Lead-Acid, Industrial Portable Service)
A-A-50608	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 2 Volt, 10 Ampere-Hour
A-A-50609	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 12 Volt, 15 Ampere-Hour
A-A-50610	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 50 Ampere-Hour
A-A-50611	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 50 Ampere-Hour

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A-A-50612	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 12 Volt, 50 Ampere-Hour
A-A-50613	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 100 Ampere-Hour
A-A-50614	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 12 Volt, 100 Ampere-Hour
A-A-50615	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 130 Ampere-Hour
A-A-50616	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 12 Volt, 130 Ampere-Hour
A-A-50617	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 200 Ampere-Hour
A-A-50618	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 300 Ampere-Hour
A-A-50619	-	Battery, Storage (Portable, Sealed, Maintenance-Free, Lead-Acid 6 Volt, 780 Ampere-Hour

MILITARY

MIL-B-18	-	Batteries, Non-rechargeable, Dry
MIL-B-8565	-	Battery Storage, Aircraft, General Specification for
MIL-B-29595	-	Batteries and Cells, Lithium Primary, Aircraft, General Specification for

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MIL-B-49430	-	Batteries, Non-rechargeable, Lithium Sulfur Dioxide
MIL-B-49436	-	Batteries, Rechargeable, Nickel Cadmium Sealed
MIL-B-49458	-	Batteries, Non-rechargeable, Lithium Manganese Dioxide
MIL-B-55130	-	Batteries, Rechargeable. Sealed Nickel Cadmium
MIL-B-62346	-	Batteries, Storage: Lead-Acid (Low Maintenance)
MIL-B-81757	-	Batteries and Cells, Storage, Nickel-Cadmium, Aircraft, General Specification for

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

30. SPECIFICATIONS FOR STANDARD BATTERIES.

30.1 Standard batteries are developed or procured in accordance with the applicable federal and military specifications in 20.1.

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APPENDIX C

INFORMATION ON COMPLETION OF THE BATTERY SELECTION REPORT (BSR)

10. SCOPE

10.1 Scope. This appendix provides the instructions necessary to complete the battery selection report (BSR) before submission to the battery support activity. The BSR will provide the battery support activity with the information necessary to recommend the appropriate battery for use in a given military system. This appendix applies only when DD Form 1423 cites Data Item Description (DID) DI-GDRQ-80650. This appendix is a mandatory part of the standard. The information contained herein is intended for compliance.

20. APPLICABLE DOCUMENTS. This section is not applicable to this appendix.

30. DESIGN DATA AND CALCULATIONS

30.1 Information on battery selection report (BSR). The BSR (waiver request for the use of a non-preferred battery) shall be completed when DD Form 1423 cites DI-GDRQ-80650 in the contract or order. Guidance and format are provided below. Additional information can be obtained by contacting the battery support activity. The completed report shall be reviewed by the PM and the battery support activity.

40. GENERAL INSTRUCTIONS

40.1 Preparation of the BSR. The BSR shall be completed by the equipment contractor and submitted to the PM and the battery support activity. The information shall be provided in letter format on 8-1/2 inch by 11 inch paper. All information requested in 50.1 through 50.4 shall be provided. The answers shall begin with the paragraph number of the question (for example, 50.3.6), followed by the response to the question. Information can be provided as enclosures with data presented in tabular or graphical format.

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APPENDIX C

50. DETAILED INSTRUCTIONS. The following information shall be provided.

50.1 General information.

50.1.1 Government program manager's (PM) name, address, and telephone number.

50.1.2 End item contractor's name, address, telephone number, and cognizant individual.

50.1.3 Next higher system contractor's name, address, telephone number, and cognizant individual.

50.1.4 Name of next larger system (if any).

50.1.5 A brief description of next higher system (if any).

50.1.6 Type of platform (for example, F-14 aircraft).

50.2 End item specific information.

50.2.1 A description of the end item and it's function.

50.2.2 Quantity, purpose, and function of batteries (that is, start, emergency, primary source of power, memory backup, and so forth) in end item.

50.2.3 Requirement for type of battery (rechargeable, reserve, or non-rechargeable battery). For rechargeable batteries, type of charging method used (that is, constant voltage, constant current, and so forth).

50.2.4 End item mission life.

50.2.5 Projected battery mission life.

50.2.6 Environmental information. If this information is from a military standard or specification, also provide the appropriate classification information including type, class, and grade.

(a) Shock levels operating, non-operating, and crash safety.

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(b) Sine and random vibration levels, both operating and non-operating.

(c) Maximum high temperature, both operating and non-operating.

(d) Minimum low temperature, both operating and non-operating.

(e) Shelf life at 25°C and at maximum high temperature non-operating.

(f) Service life at minimum low temperature operating, 25°C, and maximum high temperature operating.

50.3 Requirements placed on battery.

50.3.1 Battery dimensions (metric). Attach drawing or sketch if available. Include the dimension with and without connector for the dimension where pertinent. If the size is a commercial standard, reference the complete standard designation.

50.3.2 Battery weight (metric).

50.3.3 Voltages the battery shall supply.

50.3.4 Current or power each battery voltage section must supply. Provide a battery load profile for each section if battery current or power requirements change with time.

50.3.5 Battery connector specification, connector part number, or technical description of connector (note: a battery can consist of a single cell and the connector becomes the cell terminals).

50.3.6 Electrochemistry (that is, lead-acid, nickel-cadmium, lithium-sulfur dioxide, and so forth).

50.3.7 Battery military specification, military specification sheet, and their dates.

50.3.8 Battery commercial specification, date of specification, and commercial battery part number.

50.3.9 Battery capacity measured in ampere-hours (or watt-hours) at 25°C at the profile specified in 50.3.4.

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50.3.10 Engine start applications. For batteries performing a start function, provide the following information:

(a) Start current required versus time.

(b) Maximum and minimum potential allowed before and during start.

(c) Identify ampere-hours removed from the battery during preparation for start.

50.3.11 Emergency applications. For batteries performing an emergency function, provide the following information:

(a) Typical battery loading during emergency.

(b) Required operating time during emergency loading.

50.4 Critical characteristics which prevent usage of a preferred battery. The equipment contractor will briefly and concisely state why preferred batteries were not selected. A technically competent explanation (for example, wrong voltages, capacities, mounting systems, and how they differ) will greatly assist in the review and approval of the request. The information should be tailored to the format found in 50.2 and 50.3.

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

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I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-STD-2053	2. DOCUMENT DATE (YYMMDD) 18 January 1995

3. DOCUMENT TITLE
Requirements for Employing Standard Batteries

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (If applicable)	7. DATE SUBMITTED (YYMMDD)

8. PREPARING ACTIVITY

a. NAME Technical Point of Contact (TPOC): Mr. Bill Johnson (Code 609A) PLEASE ADDRESS ALL CORRESPONDENCE AS FOLLOWS:	b. TELEPHONE (Include Area Code) (1) Commercial TPOC: 812-854-2032	(2) AUTOVON 88-482-2032
c. ADDRESS (Include Zip Code) Commander ATTN: Bill Johnson, Code 609A, Bldg. 3235 NAVSURFWARCENDIV, 300 Highway 361 Crane, IN 47522-5001	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340	