TS

NOT MEASUREMENT
SENSITIVE

DOE-STD-1043-93
June 1993
CHANGE NOTICE NO. 1
December 1998

DOE STANDARD

GUIDE TO GOOD PRACTICES FOR OPERATOR AID POSTINGS

U.S. Department of Energy
Washington, D.C. 20585

AREA MISC

Guide to Good Practices for Operator Aid Postings

Page / Section	Change
Concluding Material	The Preparing Activity was changed from NE-73 to EH-31.

INTENTIONALLY BLANK

FOREWORD

The purpose of this Guide to Good Practices is to provide Department of Energy (DOE) contractors with information that can be used to validate and/or modify existing programs relative to Conduct of Operations. This Guide to Good Practices is part of a series of guides designed to enhance the guidelines set forth in DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*.

KEYWORDS

Operator Aid
Posted Procedure
Posted Information

INTENTIONALLY BLANK

TABLE OF CONTENTS

INTENTIONALLY BLANK

DEFINITIONS

Operations

The business activity of the facility and assigned personnel, e.g., controlling process equipment, producing/assembling components, performing tests, conducting experiments, processing information, etc.

Operations Supervisor

The individual having authority and responsibility for operational control of a facility, process, experiment, or other project.

Operator

A qualified person assigned specific responsibilities related to the operation of facility process systems and equipment.

Operator Aids
(Operator Aid Postings)

Approved, posted information used to assist personnel in performing a task [e.g., copies of procedures (portion or pages thereof), system drawings, information tags, curves, graphs, prints].

INTENTIONALLY BLANK

GUIDE TO GOOD PRACTICES FOR
OPERATOR AID POSTINGS

1. INTRODUCTION

This Guide to Good Practices is written to enhance understanding of, and provide direction for, Operator Aid Postings, Chapter XVII of Department of Energy (DOE) Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*. The practices in this guide should be considered when planning or reviewing operator aid postings. Contractors are advised to adopt procedures that meet the intent of DOE Order 5480.19.

"Operator Aid Postings" is an element of an effective Conduct of Operations program. The complexity and array of activities performed in DOE facilities dictate the necessity for controlling posted information to promote safe and efficient operations.

INTENTIONALLY BLANK

2. OBJECTIVE

The objective and criteria are derived from DOE Order 5480.19. They are intended to aid each facility in meeting the intent of the order.

An operator aid program is in place to ensure that operator aids are current, correct, and useful.

Criteria:

a.   Personnel follow guidelines for developing operator aids.

b.   Operator aids are approved prior to being posted.

c.   A list of approved operator aids, along with a reference copy of each operator aid, is maintained.

d.   Placement of operator aids adequately supports their intended use and does not obscure instrumentation or controls.

e.   Operator aids are a convenience to the individual using them.

f.   Operator aids are periodically reviewed for currency and relevance.

INTENTIONALLY BLANK

3. DISCUSSION

Operator aid postings (operator aids) provide information for personnel to use during the performance of tasks. This information may be in the form of a system drawing, copy of a procedure, information tag or sheet, curve, chart, or graph. Posted copies of procedures or portions of procedures that are used as operator aids may be useful when the performance of a task makes it impractical to refer to a procedure in a manual (e.g., task requires the use of both hands). Operator aids may help the operator identify problems that might be encountered during performance of a task, or they may present a simple diagram of equipment, systems, or areas (e.g., piping diagrams, electrical schematics). Other examples of operator aids include:

C   A list of approved facility communication terms, abbreviations, and emergency numbers posted by communication equipment,

C   A graph of flow versus pump speed for a variable speed pump hanging beside the pump speed control switch,

C   A simple diagram of control knobs, valves, and switches for infrequently used equipment,

C   Specifications for a particular step in a task. (For example, pH minimum and maximum values and elemental concentrations for disposing of fluids posted by the drain. This one may be particularly useful since specifications for different fluids can be found in many different manuals.)

Operator aids must reflect the most current information and they must not conflict with any procedures or requirements. Using operator aids containing outdated or incorrect information may cause harm to personnel or damage to the equipment, system, area, or facility. Also, if operator aids are developed for other than normal operations, (e.g., for temporary systems, for abnormal system configurations, for emergency situations) it is a good practice to clearly identify the circumstances under which they apply.

Developing useful operator aids may require intensive research and forethought. The information presented in the operator aid must be factual, and organized in a manner usable for all intended users. A thoroughly developed operator aid will ensure that the approver and reviewers better understand its need and usefulness. During the development process, reviews by applicable technical personnel may be helpful to ensure clarity.

An initial review and approval process verifies that the information contained in an operator aid is accurate and useful. This process officially authorizes its use. Periodic reviews will help ensure that the information is kept up-to-date and will verify the continued usefulness of the operator aid. It is important to remove obsolete, conflicting, or non-useful operator aids as quickly as possible to eliminate personnel confusion when performing tasks.

Documentation of operator aids is essential to their control. Maintaining a centrally located file of all operator aids will enhance the periodic review process. This file will help personnel quickly review and take action to correct, update, or remove obsolete operator aids as necessary. Listing reference documents used in the development process facilitates finding and updating operator aids when reference information changes.

Placing an operator aid in a conspicuous place that will allow the user to access controls or instrumentation is essential to posting. If the operator aid blocks instruments or controls, it will be more of a hinderance than a help. Affixing operator aids to the desired location using an attachment device suitable to the posting surface and the environment will ensure that the operator aid remains posted. An operator aid will be of little use if it comes loose and falls from its desired location.

The operator is one of the most important elements in ensuring the success of the operator aid program. Using only approved and current operator aids will help ensure the operator aid promotes safe and efficient operation. Operators must identify and report unapproved or incorrect operator aids at their work stations. This will ensure that the operator aids remain a useful tool in conducting business safely at their facility.

4. GOOD PRACTICES

This good practice provides instruction on how to administer and control an effective operator aids program, including operator aid development, approval, documentation, posting, use, and review. Each of these six steps are important to ensure that only useful operator aids are posted, and that they remain updated during their use.

Operator aids should be developed to provide the user with information that might otherwise be overlooked. The need for an operator aid should be concurred with prior to expending resources in its development. Operator aids may be developed to supplement procedures, but should not be developed to alter (e.g., correct or update) procedures. Only procedure changes and revisions should be used to alter procedures. For more information on procedures refer to DOE Order 5480.19, Chapter XVI, "Operations Procedures."

Operator aids must not be developed for personnel and equipment safety situations where danger or caution tags should be used. The facility lockout and tagout procedure should address the correct mechanism(s) for protecting personnel and equipment. For information on lockouts and tagouts, refer to DOE Order 5480.19, Chapter IX, "Lockouts and Tagouts."

Operator aids should not be developed for use as equipment and piping labels. Guidance concerning labeling should be provided in the facility's equipment and piping labeling program. For information pertaining to labeling, refer to DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, Chapter XVIII, "Equipment and Piping Labeling."

4.1 Operator Aid Development

Facility personnel should be encouraged to develop needed operator aids. Therefore, all personnel, including support personnel, should be aware of the operator aid development process. Prior to developing an operator aid, personnel should be trained on the development process. As a minimum, this training should cover the importance of controlling posted information and the procedure or guidelines for developing an operator aid. Information control topics such as why it is important to use only approved operator aids, how to tell if an operator aid is approved, what to do if it is not approved, and how to verify that an operator aid is current should be addressed.

When developing operator aids, personnel should use the most current information. This may require communicating with personnel in the facility's document control organization to ensure that the most current revisions of reference documents (e.g., procedures,

drawings, technical manuals) are being used. To ensure the operator aid is correct, the developer should communicate with other users, competent technical authorities (e.g., system, facility, or safety engineers), and the cognizant supervisor.

An operator aid submitted for approval should contain the reference information that the approver will need to ensure that the operator aid is necessary and correct (e.g., document names, numbers and revision numbers, technical personnel phone numbers). Including this information with the operator aid will minimize the time required for approval. To ensure that the proper information accompanies each operator aid that is submitted, an operator aid approval sheet, which contains spaces for this information, could be used. Appendix A contains a sample operator aid approval sheet.

If operator aids are developed for other than normal operations, they should clearly identify their intended purpose. For example, if an operator aid is developed for a temporary system, it may contain the title "Temporary System Operator Aid" or may be developed using a different color paper. If an operator aid is only to be used for a limited time or in certain situations the operator aid should contain this information also (e.g., "This operator aid for use only during Mode 1 operation."). Including this information should help reduce the human interface problems associated with operator aids.

Operator aids should be prepared in a professional manner (refer to Appendix B). Operator aids submitted for approval should be identical, or as close as possible to the size, format, material and quality of the proposed operator aid. This will allow the approver to see how the operator aid will appear, before it is approved. To assist in preparing the operator aid, facility support personnel (e.g., technical writers, graphic artists) may need to be contacted, especially if the operator aid contains complex figures or drawings.

4.2 Approval

After an operator aid is developed, it must be approved before posting. At a minimum, the operations supervisor or cognizant manager should approve the operator aid. Support organization personnel wanting to have an operator aid posted should submit the proposed information to the operations supervisor for approval.

The person responsible for approving the operator aid (the approver) should verify that it is necessary. This verification will limit the number of operator aids posted in the facility.

If an administrative mechanism (e.g., label, tagout, procedure change) should be used, the operator aid should not be approved.

The next step is to verify that the operator aid is correct. Part of this verification should ensure that the operator aid does not contradict or alter procedures. The documents and technical authorities referenced for the submitted operator aid should be consulted to verify correctness. Using an operator aid approval sheet should enhance this process since all of the information is listed in one convenient location.

If the approver verifies that the operator aid is necessary and correct, the approver should sign and date the operator aid to signify that it is approved. Once approved, the operator aid should be documented and routed for posting. If the operator aid is not approved, it should be returned to the developer with an explanation concerning its disapproval and requirements for resubmittal and final approval.

4.3 Documentation

All approved operator aids should be documented. At a minimum, a listing of all approved operator aids should be maintained, along with a reference copy of each operator aid. The reference copies should be used to replace operator aids found to be damaged or missing. If an operator aid approval sheet is used, it should be kept with the copy of the operator aid. All operator aid documentation should be kept in a specified location (e.g., control area, operation supervisor's office, project manager's office, other appropriate location).

The listing of all approved operator aids, also called an index, serves as a record for all operator aids posted in the facility. This index should contain the operator aid's control number, title, reference documents, posted location, approval signature and date, and removal signature and date. If an operator aid approval sheet, which contains this information, is used, the index would not need to duplicate all of the information. Appendix C contains a sample operator aid index sheet for both cases.

To assist in tracking operator aids, each operator aid should be assigned a unique control number. One method of assigning control numbers is to use a sequential serial number. As an example, operator aid control number 92-02 would indicate the second operator aid issued for the year 1992.

A system, such as a binder, should be used to maintain the operator aid information. This binder may include a copy of the operator aid development procedure or

guidelines, the operator aid index, and a reference copy of all operator aids. If an operator aid approval sheet is used, it should be filed in the binder with its associated operator aid.

4.4   Placement

Approved operator aids should be placed (posted) in proximity to the area of expected use. They should not obscure instruments (e.g., meters, gauges, indicating lights) or interfere with controls.

An operator aid should be firmly attached at the specified location. The attachment method should be compatible with the environment. A form of attachment should be used such that when the operator aid is no longer needed, it can be readily removed.

The posted operator aid should be protected from the environment. If an operator aid is located in an area where it might become wet, oil-stained, or otherwise unusable, it should be laminated, placed in a clear plastic pouch, or made of material that will withstand the environment. Using a paper copy of the operator aid placed in a clear plastic pouch is a suitable, inexpensive method.

4.5   Use of Operator Aids

Operator aids should be viewed as a convenience to the individual using them, not a requirement. Although copies of procedures or portions of procedures can be used as operator aids, the requirement is to follow the procedure. The operator aid makes it easier for the operator to follow the procedure, because the procedure is conveniently posted. The decision to use the posted procedure or the procedure in the manual should be left to the operator.

All personnel should be trained on the need for controlling posted information. This training should cover why it is important to use only approved operator aids, how to tell if an operator aid is approved, what to do if it is not approved, and how to verify that an operator aid is current.

When an operator aid is used, the user should verify that it is approved. If the posted information is not approved, the person should not use it and should notify the supervisor. A decision should be made whether to submit the operator aid for

approval or remove it. If the operator aid is unusable because of wear or dirt, the operator should obtain a new copy of the operator aid. When the need for an operator aid no longer exists, an operator or the developer/organization originating the operator aid should notify the appropriate supervisor and ensure that the operator aid is disposed of in accordance with facility policies and procedures.

4.6   Review of Operator Aids

Posted operator aids should be reviewed periodically to ensure that they are still correct, necessary, and don't supersede or conflict with controlled procedures or information. A person or persons should be assigned the responsibility for auditing the operator aid index to ensure that only currently posted aids are recorded on the index. This person should verify that each operator aid listed in the operator aid index is still posted and necessary. This determination should be made through discussion with the affected operators. If it is still necessary, the auditor should verify the location is the same as that recorded on the operator aid index sheet or the operator aid approval sheet and that each operator aid is legible and in good condition. No unapproved pen-and-ink changes should exist. The auditor should also verify that the information contained in the operator aid is current and applicable. If the operator aid is still needed but is missing, a new copy should be posted. If the operator aid is no longer needed, the reference copy should be removed from the operator aid binder and the operator aid should be deleted from the index (i.e., the removal signature and date block of the index should be completed).

Since operator aids may be copies of graphs, curves, or procedures, the information is subject to change as the reference documents are revised. Therefore, the reference documents should be periodically checked for the latest revision numbers. If a revision to an operator aid's reference document has changed information on the operator aid, the operator aid should be updated. One way to ensure that revisions are incorporated into operator aids is to notify the appropriate document control personnel of those operator aids that are derived from controlled (parent) documents. This would effectively place the appropriate person(s) on the document control system distribution list for the specified parent documents. When a revision is made to one of these controlled documents, document control would notify the appropriate control area of the affected operator aid(s). The appropriate review person would then determine if operator aid changes were necessary.

Besides a formal periodic review of all operator aids, personnel should be instructed to review operator aids at their work stations to ensure they are approved and correct. This may be done during routine work station tours, or as a separate inspection. If unapproved operator aids are found, they should be reviewed and submitted for proper approval, or removed if determined to be unnecessary.

SUPPLEMENTAL RESOURCES

The following sources provide additional information pertaining to topics discussed in this Guide to Good Practices:

DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, Chapter IX, "Lockouts and Tagouts."

DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, Chapter XVI, "Operations Procedures."

DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, Chapter XVIII, "Equipment and Piping Labeling."

INTENTIONALLY BLANK

APPENDIX A
SAMPLE OPERATOR AID APPROVAL/AUDIT SHEET

INTENTIONALLY BLANK

OPERATOR AID APPROVAL/AUDIT SHEET

Operator Aid Control No.: _____

Operator Aid Name: _____

_____

Description: _____

_____

Reason for Posting: _____

_____

_____

Posting Location: _____

_____

Reference Documents: _____ Rev. No.:_____

_____ Rev. No.:_____

_____ Rev. No.:_____

Developer: _____ Date: _____

Department: _____

Reviewers: _____

_____

Approval Signature: _____ Date: _____

Audited:

Date	Initial	Date	Initial	Date	Initial	Date	Initial
____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____

Notes:

Operator Aid Control No.   The next sequential number for operator aid issuance.

Description   A description of the operator aid (e.g., chart, graph, procedure inset).

Reason for Posting   An explanation of the need for the operator aid.

Posting Location   The desired location for posting the operator aid.

Reference Documents   Any documents that were used to obtain the operator aid information (e.g., procedures, technical manuals, reports, prints, drawings). If the document has a revision, the revision number should be listed.

Developer   The name and position of the person developing/requesting the operator aid.

Department   The department (e.g., Operations, Maintenance) of the developer.

Reviewers   The names and positions of all additional technical personnel involved in the initial development and approval process.

Approval Signature   The approvers signature, position, and date signed signifying the operator aid is necessary and correct, and approved for posting.

Audited   When an operator aid is audited the auditor dates and initials the next open line signifying the operator aid is still necessary and correct.
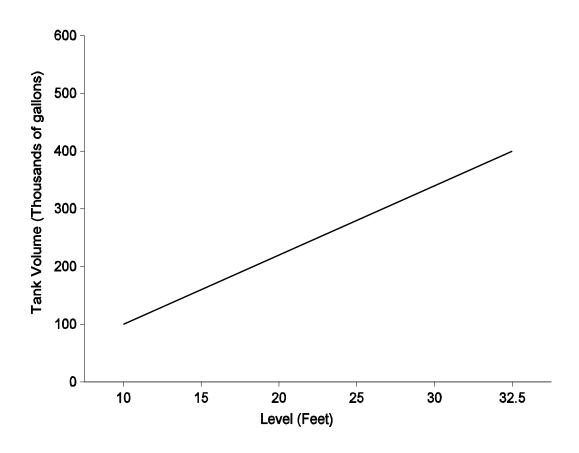
APPENDIX B
SAMPLE OPERATOR AIDS

INTENTIONALLY BLANK

OPERATOR AIDS

CONDENSATE STORAGE TANK VOLUME VERSUS LEVEL
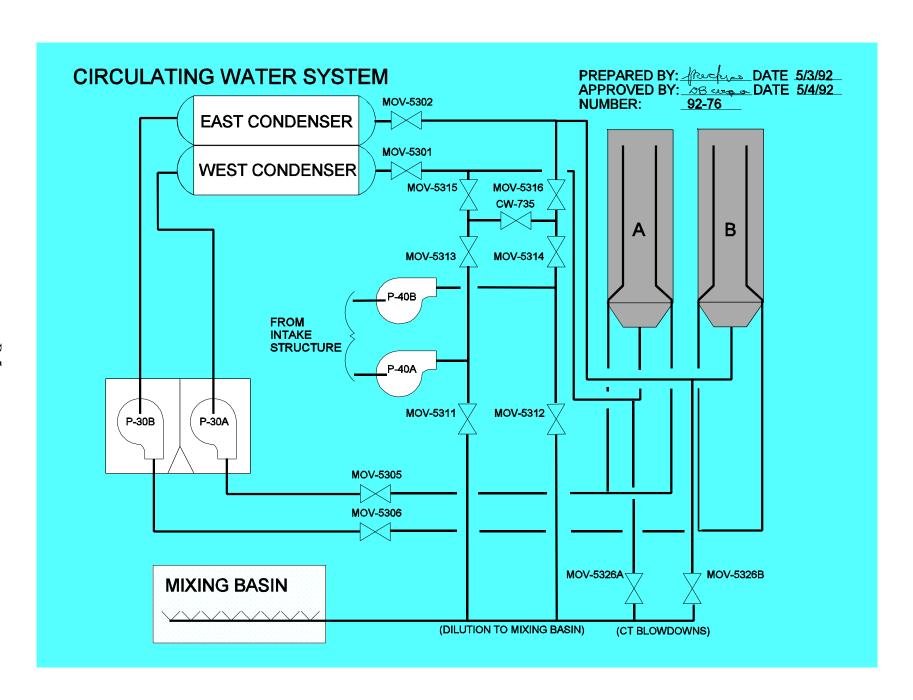

Prepared by: _____ Date: _____

Approved by: _____ Date: _____

Number: _____

LUBE OIL TANK SIGHTGLASS LEVEL CONVERSION CHART

Since the sightglass on the lube tank to the emergency Diesel Generator is incremented in inches and our fuel oil consumption reports are in gallons, the following chart should be used to convert level in the lube oil tank to gallons.

INCHES	GALLONS
20	104.0
19	98.1
18	92.0
17	85.9
16	79.7
15	73.4
14	67.2
13	61.0
12	54.9
11	48.8
10	42.9
9	37.1
8	31.4
7	26.1
6	20.9
5	16.1
4	11.6
3	7.6
2	4.2
1	1.5

Prepared by: _____ Date: _____
Approved by: _____ Date: _____
Number: _____

EMERGENCY DIESEL
GENERATOR LUBE OIL TANK

CIRCULATING WATER SYSTEM

EAST CONDENSER

WEST CONDENSER

MOV-5302

MOV-5301

MOV-5315   MOV-5316

CW-735

MOV-5313   MOV-5314

A   B

FROM
INTAKE
STRUCTURE

P-40B

P-40A

MOV-5311   MOV-5312

P-30B   P-30A

MOV-5305

MOV-5306

MOV-5326A   MOV-5326B

MIXING BASIN

(DILUTION TO MIXING BASIN)   (CT BLOWDOWNS)

B-5

DOE-STD-1043-93

INTENTIONALLY BLANK

APPENDIX C
SAMPLE OPERATOR AID INDEX SHEETS

INTENTIONALLY BLANK

OPERATOR AID INDEX SHEET USED WITHOUT AN OPERATOR AID APPROVAL SHEET

Operator Aid Control Number	Title of Operator Aid	Reference Documents	Posted Location	Approval Signature/Date	Removal Signature/Date

C-3

DOE-STD-1043-93

OPERATOR AID INDEX SHEET USED WITH OPERATOR AID APPROVAL SHEET

Operator Aid Control Number	Title of Operator Aid	Approval Signature/Date	Removal Signature/Date

DOE-STD-1043-93

CONCLUDING MATERIAL

Review Activities:

Preparing Activity:

DOE
DP
EH
EM
ER
NE
NS

DOE-EH-31

Project Number:

MISC-0018