

GUIDELINE	PERFORMANCE	EXCEPTIONS
<p>1) Procedure Development</p> <p>a) Procedures should be developed to assist in the development and review of operations procedures and should include methods and formats for them</p> <p>b) Procedures should be developed giving administrative and technical direction for all anticipated operations, system changes, alarm responses, and abnormal or emergency situations also giving the appropriate responses</p> <p>c) The detail in the procedure should be consistent with the complexity of the task, the experience and training of the person performing the task, the frequency of performance, and the consequences of errors</p>	<p>1) Procedure Development</p> <p>a) Procedures exist to assist in the development and review of C-AD operations procedures. These procedures include methods and formats. See C-AD OPM 1.4, "Collider-Accelerator Department Plans, Policies and Operating Procedures," C-AD OPM 1.4.1, "Format of C-AD Policies, Programs and Operating Procedures," C-AD OPM 1.4.2, "Format of C-A Procedures," and C-AD OPM 1.4.4, "Procedure For Implementing or Canceling Temporary Procedures."</p> <p>b) Procedures exist at C-AD to give administrative and technical direction for all anticipated operations, system changes, alarm responses, and abnormal or emergency situations, and also to give the appropriate responses. In order to ensure this, procedure development is governed by a series of management, administrative and technical review processes. See C-AD OPM 1.4.3, "Procedure for Implementing New or Revised Permanent Procedures, or Canceling Permanent Procedures."</p> <p>c) The detail in procedures and training is consistent with the complexity of the task, the experience and training of the person performing the task, the frequency of performance, and the consequences of errors. See C-AD OPM 1.4.2, "Format of C-A Procedures."</p>	<p>1) Procedure Development None</p>
<p>2) Procedure Content</p> <p>a) The following requirements should be followed to assure that the content conforms to the prescribed guidelines:</p> <p>i) Scope and applicability should be apparent. Emergency procedures should be easily distinguishable from other procedures by use of a color code</p> <p>ii) Procedures should incorporate information from appropriate reference sources</p> <p>iii) Prerequisites and initial conditions,</p>	<p>2) Procedure Content</p> <p>a) The following requirements are followed to assure that the procedure content conforms to the prescribed guidelines:</p> <p>i) Scope and applicability are apparent. See C-AD OPM 1.4.2, "Format of C-A Procedures." Emergency procedures are easily distinguishable from other procedures by use of a Chapter Number. See C-AD OPM Chapter 3, "C-AD Emergency Procedures."</p> <p>ii) Procedures incorporate information from the most appropriate reference source, which is the Standards Based Management System</p> <p>iii) Prerequisites and initial conditions, including verification of the</p>	<p>2) Procedure Content None</p>

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<p>including verification of the condition of the equipment to be used, should be detailed and set out in a place within the procedure which is easily found.</p> <p>iv) Definitions should be explained.</p> <p>v) Procedures should be easily understood and actions clearly stated</p> <p>vi) Procedures should contain only one action per step</p> <p>vii) Procedures should contain sufficient but not excessive detail based on the skill level of those executing the procedure</p> <p>viii) Warnings, notes, and cautions should be easily recognizable</p> <p>ix) Warnings and cautions should precede the step to which they apply and appear on the same page</p> <p>x) Procedures should be technically and administratively accurate and include sufficient information and correct references</p> <p>xi) Sign-offs should be provided for each critical step</p> <p>xii) Limits and tolerances for operating parameters should be consistent with readable accuracy of instruments</p>	<p>condition of the equipment to be used, is detailed and set out in a place within the procedure which is easily found. See C-AD OPM 1.4.2, "Format of C-A Procedures."</p> <p>iv) Definitions are explained; see OPM 1.3, "Definitions". In addition, each OPM has its own definitions as needed.</p> <p>v) Procedures are easily understood and actions clearly stated; see C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>vi) Procedure writers are requested to contain only one action per step; see C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>vii) Procedures contain sufficient but not excessive detail and are based on the skill level of those executing the procedure; see C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>viii) Warnings, notes, and cautions are easily recognizable; see C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>ix) Warnings and cautions precede the step to which they apply and appear on the same page see C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>x) A review process helps ensure procedures are technically and administratively accurate and include sufficient information and correct references; see C-AD OPM 1.4.3.a, "C-A Permanent Procedure Tracking Form for New or Revised Procedures"</p> <p>xi) Sign-off is provided for critical steps where appropriate; for example, search for checklists, approvals, etc. at Search.</p> <p>xii) Limits and tolerances for operating parameters are consistent with readable accuracy of instruments; for example, see limits in the C-A Accelerator Safety Envelopes and the associated OPM 2.5 series that are well within the readable accuracy of instruments</p>	

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<p>xiii) Criteria for surveillance or test procedures should be easily understood. If calculations are required, they should be explained</p> <p>xiv) Sequence of procedural steps should conform to normal or expected operational sequences</p> <p>xv) Procedures should incorporate human factors, such as exact references to components and documents, and include highlights of operational limits, warnings, and cautions</p> <p>xvi) Emergency operating procedures should consider single and multiple causalities</p> <p>xvii) References to procedural steps unrelated to the procedure being used should be avoided</p> <p>xviii) Component or system shutdown and restoration requirements following shutdown, maintenance, or surveillance should be specified</p>	<p>xiii) Criteria for surveillance or test procedures are easily understood. Calculations, when required, are explained. See for example OPM 6.1.2, "Responding to Chipmunk Interlocks."</p> <p>xiv) Sequence of procedural steps conforms to normal or expected operational sequences; see this requirement in C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>xv) Procedures incorporate human factors, such as exact references to components and documents, and include highlights of operational limits, warnings, and cautions; see this requirement in C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>xvi) Emergency operating procedures apply to different types of events; see C-AD OPM Chapter 3, C-AD Emergency Procedures</p> <p>xvii) References to procedural steps unrelated to the procedure being used are avoided or identified by "GOTO" or "REFER TO" in capitals; see C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>xviii) Component or system shutdown and restoration requirements following shutdown, maintenance, or surveillance are specified. See for example, OPM 11.4.3, "STAR Power Supply SHUT-DOWN Check Off List or OPM 8.33.b, "J10 Power Supply Shut-Down Check Off List" or OPM 5.29, "AGS, BOOSTER Ring, and Beam Transport Shutdown."</p>	
<p>3) Procedure Changes and Revisions</p> <p>a) The review and approval process for each procedure and change should be documented. Procedure changes imply temporary changes, to a procedure without retyping it. Procedure revisions constitute the retyping and reissuance of the procedure. Changes and revisions should conform to the following:</p> <p>i) Procedure changes should be</p>	<p>3) Procedure Changes and Revisions</p> <p>a) Procedure changes at C-AD are performed under C-AD OPM 1.4.5, "Procedure for Implementing Hand processed Changes," and procedure revisions are performed under C-AD OPM 1.4.3, "Procedure for Implementing New, Revised Permanent Procedures or Canceling Permanent Procedures. These procedures conform to the following:</p> <p>i) Procedure changes are documented in a logbook readily available for</p>	<p>3) Procedure Changes and Revisions</p> <p>None</p>

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<p>documented in a logbook readily available for operator reference</p> <p>ii) Procedure changes and revisions should be made when errors or omissions are noted</p> <p>iii) Procedure revisions should be started when a temporary change has been outstanding for a long period of time</p> <p>iv) Procedure revisions should be implemented concurrently with modifications</p> <p>v) Information on changes or revisions should be communicated to operations personnel through shift briefings or through required reading</p> <p>vi) The reasons behind important procedure steps should be documented to assure their importance is maintained</p> <p>vii) Procedure reviews should involve a walk-through or a similar process</p>	<p>operator reference</p> <p>ii) Procedure changes and revisions are made when errors or omissions are noted</p> <p>iii) Procedure revisions are started simultaneously when a hand-processed change is made</p> <p>iv) Procedure revisions are implemented concurrently with modifications</p> <p>v) Information on changes or revisions is communicated to operations personnel through shift briefings, classroom training or through required reading</p> <p>vi) The reasons behind important procedure steps are generally documented in safety or design reviews. When Caution and Warning statements are used in procedures, the consequence of not following the Caution or Warning is stated. See C-AD OPM 1.4.2, "Format of C-A Procedures"</p> <p>vii) Procedure reviews for sweep procedures such as the C-AD OPM 4.56 Series, "Procedures for Sweeping Primary Beam Enclosures – Controlled Access," involve a walk-through</p>	

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<p>4) Procedure Approval</p> <p>a) Operating procedures should be approved by the Operations Supervisor</p> <p>b) Procedures which affect safety-related equipment and emergency procedures should be reviewed by the safety review committee of the department or facility</p> <p>c) Revisions to the procedures should receive the same level of approval as the initial versions. New and revised procedures should be approved before use</p> <p>d) Temporary changes should be approved by a least two individuals, one of whom must be the Operations Supervisor</p>	<p>4) Procedure Approval</p> <p>a) Operating procedures are approved by the C-AD operations management and supervisors where appropriate. See C-AD OPM 1.4, "Collider-Accelerator Department Plans, Policies and Operating Procedures," and C-AD OPM 1.1, "Authorization."</p> <p>b) Procedures which affect safety-related equipment and emergency procedures are reviewed by the appropriate C-AD and/or TVDG safety review committee. See C-AD OPM 9.2.1, "Procedure for Reviewing Environmental, Health and Safety Aspects of Experiments," C-AD OPM 9.3.1, "Procedure for Reviewing Conventional Safety Aspects of a C-A System," and C-AD OPM 1.1, "Authorization."</p> <p>c) Revisions to the procedures receive the same level of approval as the initial versions. New and revised procedures are approved before use. See C-AD OPM 1.4.3, "Procedure For Implementing New or Revised Permanent Procedures or Canceling Permanent Procedures."</p> <p>d) Temporary procedures and Hand Processed Changes are approved by a least two individuals, one of whom must be the C-AD Head of MCR or TVDG Operations Supervisor, as appropriate, or an equivalent authority. See C-AD OPM 1.4.5, "Procedure for Implementing Hand processed Changes."</p>	<p>4) Procedure Approval None</p>
<p>5) Procedure Review</p> <p>a) Procedures should be reviewed before they are issued and at periodic intervals to assure that information is accurate and that human factors have been considered</p> <p>b) Applicable procedures should be reviewed after an unusual occurrence, or other significant event</p> <p>c) New procedures should be walked through to ensure their workability</p>	<p>5) Procedure Review</p> <p>a) Procedures are reviewed before they are issued and at three-year intervals in order to assure that information is accurate and that human factors have been considered. The Head of MCR issues temporary procedures. Temporary procedures are authorized for a running period, which is one year or less. See C-AD OPM 1.4, "Collider-Accelerator Department Plans, Policies and Operating Procedures."</p> <p>b) Applicable procedures are reviewed after an unusual occurrence, or other significant event. See C-AD OPM 10.1, "Occurrence Reporting and Processing of Significant Operations Information."</p> <p>c) New procedures are walked through to ensure their workability. See C-AD OPM 1.4, "Collider-Accelerator Department Plans, Policies and Operating</p>	<p>5) Procedure Review None</p>

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<p>6) Procedure Availability</p> <p>a) Controlled copies of procedures should be maintained in control areas for operator reference, and in other areas as appropriate</p> <p>b) Working copies should be controlled and a system put in place to ensure outdated procedures are replaced</p>	<p>Procedures.”</p> <p>6) Procedure Availability</p> <p>a) Controlled copies of the C-AD procedures are maintained for operator reference and in other areas as appropriate. See C-AD OPM 1.2, “C-A Documents.” Current procedures are maintained on an intranet for ease of access; the QA and Documentation Manager maintains the original copy of all procedures. See C-AD OPM 1.4, “Collider-Accelerator Department Plans, Policies and Operating Procedures.”</p> <p>b) Official copies of procedures are maintained at an official, fire-walled website. Before using a printed copy, workers must verify that the procedure is the most current version by checking the document issue date on this website.</p>	<p>6) Procedure Availability</p> <p>None</p>
<p>7) Procedure Use</p> <p>a) The requirements for using the procedures should be understood by all operators</p> <p>b) Operators need not look up the emergency procedures when taking immediate actions in emergency situations, but the procedures should be reviewed immediately after to validate the action</p>	<p>7) Procedure Use</p> <p>a) The requirements for using the procedures are understood by all operators. This is accomplished through appropriate training programs, testing and procedure walkdowns. See C-AD OPM 1.12, “Training and Qualification Plan.”</p> <p>b) Operators generally do need not look up the emergency procedures when taking immediate actions in emergency situations; however, they are reviewed immediately after to validate the actions taken. See C-AD OPM 3.1, “Emergency Procedures to be Implemented by the Department Emergency Coordinator,” section 5, for example.</p>	<p>7) Procedure Use</p> <p>None</p>