Federal Aviation Administration

Initial En Route Qualification Training

Handout 00
ERAM Lab Procedures and SOP

Course 50148001

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INTRODUCTION

A developmental Air Traffic Control Specialist will have many different Instructors while in training at the Academy. While students may benefit from diverse training methods, skills, and instruction, one obvious drawback is the potential for students to receive conflicting information. We must be very cautious about shortcuts or “the way we did it at my facility” instead of “by the book.” Aero Center is a training facility; therefore, standardization of instruction is one of our highest goals. This document has been developed in an effort to provide standardized policies and procedures to be used in the ERAM lab.

The policies, practices, prohibitions and procedures included in this document are normally found in several different facility documents such as the SOP, AIT, Facility Directives and Letters of Agreements. These items have been assembled here for the convenience of the Instructors and students.

This document is intended to be used only as a supplement to other official sources such as the JO7110.65 and letters of agreement with other facilities. Every effort must be made to follow the provisions of this document to help standardize the instruction being delivered to the students from multiple Instructors.

Just as Aero Center is simulated airspace, the LOAs, SOP, and other facility directives are fictitious documents. Students must understand that field facilities will have different policies, procedures and practices. Aero Center does not attempt to instruct or teach every possible situation that will be encountered in the field. While many traffic situations could be managed correctly in several different ways, Aero Center preferred methods for dealing with situations included in the training scenarios are discussed here.

Our goal is to provide the best possible learning environment to every student, including tailoring instruction to the needs of the individual student. Care is taken to avoid having these guidelines replace the discretion and good judgment needed to achieve that goal.

Forward suggestions and recommended changes to this document to the course coordinator for review.

Students are expected to be receptive to training performance feedback from Instructors/Evaluators.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION (ZAE ORDER)

SUBJECT: En Route Automation Modernization – ERAM

1. **PURPOSE:** In addition to the requirements in FAA Order JO 7110.65, Aero Center (ZAE) has local requirements for the operational use of EDST.

2. **DISTRIBUTION:** This order is distributed to all facility personnel.

3. **EFFECTIVE DATE:** October 1, 2009

4. **PROCEDURES:** The following must be used at Aero Center:

   A. Aircraft List (ACL), Departure List (DL) and Flight Data Management

      (1) When EDST is operational, a flight progress strip must be posted for any flight plan not contained in the Computer System, nonradar aircraft, or any strip deemed necessary for safe or efficient operations.

      (2) The EDST Drop Track Delete option must be selected for use during EDST operations.

   B. Manual Coordination and the EDST Coordination Menu

      (1) Where automated coordination with a facility is not available (e.g., MLU or JAN APCH, VFR tower, FSS), use the Coordination menu to annotate manual coordination.

      (2) When the EDST Coordination Menu is used and the flight plan is subsequently changed, remove the yellow coding from the Coordination Indicator after any appropriate action has been taken.

   C. Holding

      (1) For flights in hold, use EDST Hold annotations. Hold annotations must be deleted when aircraft is cleared from holding.

   D. Acknowledgement of Automated Notification

      (1) The EDST Inappropriate Altitude for Direction of Flight (IAFDOF) feature must be used in the Automatic mode (i.e., IAFDOF Manual must remain deselected).

   E. Delay Reporting

      (1) Delay information must be automatically recorded via use of the EDST Hold Annotations menu. If EDST is unavailable, a facility worksheet must be used to record delay information.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION (ZAE ORDER)
(CONT'D)

F. AIT

(1) AIT procedures between ZAE and surrounding ERAM facilities are approved as defined within local documents and procedures.

Harlan Drewry

Harlan Drewry
ZAE Air Traffic Manager

SECTION I - BOARD MANAGEMENT AND STRIPMARKING

1. The student must use a single-bay operation for active traffic.

2. Strips must be sequenced by time at the start of the scenario with the earliest time at the bottom of the bay. All stripmarking must be in compliance with the Phraseology and Strip Marking Guide.

3. Students are not allowed to clear departures out of the Departure List. The strip must be placed in the bay prior to issuing the clearance.

4. When ERAM is operational, flight progress strips must be posted for nonradar flights and for flights not contained in the ERAM system.

5. Strips must be used for departures and arrivals at airports where JAN Low provides approach control service (KGWO, KVKS, 0M8, and KTVR), emergencies, or any strip deemed necessary for safe or efficient operations.

    A. Active flights must be placed in the bay.

6. Deadwood must be removed from the active bay.

    A. A departure strip is deadwood when the aircraft is radar identified and the blocked airspace cancelled (if needed).

    B. An arrival strip (including emergencies), to KGWO, KVKS, or 0M8 is deadwood when a landing time is received for an arrival and all coordination (including supervisory notification when required) and stripmarking have been accomplished.

    C. An emergency strip is deadwood when all coordination, stripmarking and supervisory notification are accomplished and frequency change issued to the next sector or facility.

7. The student is responsible for board management including the removal of deadwood. Radar Controllers must not pull deadwood.

8. After a VFR flight plan is entered into the computer, the EDST readout is sufficient.

9. Stripmarking must be in accordance with FAA Orders and Academy lesson plans and the Aero Center Phraseology and Stripmarking Guide.

10. The student is primarily responsible for marking the strips (some exceptions are listed in Appendix A); however, if the student is unable to do so (on landline, entering a flight plan or amendment, etc.), the Radar Controller must either mark the strip or advise the student of any control actions that would require EDST entries.

SECTION I - BOARD MANAGEMENT AND STRIPMARKING (CONT'D)

11. The student must write down all flight information on a blank strip when receiving a manually passed flight plan. The student may hand write the strip on a flat surface or in the bay, then the strip must be placed in the bay and kept up to date until the information is entered into the EDST.

12. Handwritten strips are not required from the student when the student uses an abbreviated VFR flight plan message (VP) for VFR flight following. When a VFR aircraft requests VFR advisories, the Radar Controller must copy the information on a blank strip and then notify the student.

13. Blank strips may be used to record reroute or other pertinent information before it is updated in the EDST.

14. Written notes posted in the SIA must be organized, legible, complete, unambiguous, non-contradictory, and suitable for the preview of the position by another controller.

15. GI's containing PIREPs, airspace status', TMU restrictions, and any other pertinent information must be acknowledged on the EDST.

16. After a missed approach, MA must be written under the approach name. No missed approach time is required. The strip must not be removed until the MA aircraft is radar identified. A new strip must be posted if the aircraft attempts another approach at the same airport or requests to hold after executing the missed approach. If the aircraft diverts, there is no requirement to post a new strip unless the diversion is to another sector 66 airport that would normally require a posted strip.

SECTION II – FLIGHT DATA MANAGEMENT

1. Unless otherwise specified by an order or SOP, students may display the ACL and other windows according to their own preferences; however, because the ACL and DL must be used as the sector team's primary source of flight data, consideration must be given to other team member's ability to view flight data.

2. Use a Voice Communication Indicator in the bookkeeping box to indicate an aircraft is on frequency.

3. When an ACL or DL entry has a Remarks indication, the Remarks field of the flight plan must be reviewed prior to entering Sector 66. Remarks that are pertinent to the control of the aircraft must be coordinated with the R-side prior to entering Sector 66. For example: Remarks stating "REQUEST NO ROUTE/ALTITUDE CHANGES" or "RANDOM ROUTE" are pertinent whereas a remark stating "PILOTS LAST FLIGHT" is not.

4. Highlighting an entry on the ACL, or DL, must be used when the following tasks are necessary but cannot be accomplished immediately: (**Note:** This does not apply to A/C that have color coding for the needed task)

   A. An aircraft that requires a route change (including future holding)

   B. An aircraft that requires an altitude change

   C. Coordination will need to be accomplished

   D. A Point Out will need to be accomplished but a FDB cannot be sent.

      NOTE: Unnecessary use of highlighting will result in an error.

5. Preplanning and notes may be recorded in free text if enclosed on both ends with an asterisk to differentiate them from completed control actions. If the free text area is used, it must remain open when information is recorded there. When information in the free text area is no longer relevant, it must be updated or deleted. Students must be aware that the use of notes in free text is not a substitute for situational awareness.

6. Grayed-out entries in the ACL must be deleted only when aircraft are no longer on frequency. Do not use the "clean up" button.

7. The Special Posting Area (SPA) may be used to group aircraft that have special significance (e.g., aircraft to be sequenced, emergencies, etc.) however;

   A. All arrivals to KGWO and uncontrolled airports must be placed in the SPA. Arrivals must be placed in the SPA before the approach clearance is issued.

   B. All aircraft issued holding instructions must be placed in the SPA

8. Whenever possible, altitude information in data blocks must reflect the actual clearance issued. The Radar Controller must make the entry with the exceptions in section IV-5. There is no requirement to enter interim altitudes issued by JAN or MLU approach that are in accordance with LOA provisions regarding departures, however, all other interim altitudes must be entered.

SECTION II – FLIGHT DATA MANAGEMENT (CONT'D)

9. When necessary for coordination purposes, 4th line data must be used to record headings, speeds, and weather deviations. The Radar Controller must make the entry. Fourth line data may be used by the student to record pilot requests for altitude or route changes if the 4th line is still available for use, however, 4th line use is not required.

10. Vectors for KGWO arrivals must be recorded by the Radar Controller on the flight progress strip.

11. There is no requirement to record headings and/or speeds in the 4th line of the data block of KJAN or KMLU arrivals.

12. The following must be put in remarks and also require verbal coordination.

    A. "FUEL" (Minimum)

    B. "NORDO"

13. When coordination is required, the following must be put either in fourth line data or coordinated verbally. Fourth line data is preferred when available. Note that, in accordance with FAA Order 7110.65 par. 5-4-11, the following are items allowed in 4th line data.

    A. Heading

    B. Heading until a fix

    C. Speed/Mach number

    D. Weather deviations

    E. CELNAV

14. The following are examples of approved free text abbreviations.

    A. CTL = got control

    B. T = turns

    C. S = speed

    D. ↓ = descent

    E. ↑ = climb

    F. RLSD = gave control

    Examples: CTLT = got control for turns – (entry not required but is allowed)
    RLSD↓ = gave control for descent – (entry not required but is allowed)

SECTION II – FLIGHT DATA MANAGEMENT (CONT'D)

Note: Any other abbreviations used to indicate completed control functions must be unambiguous. See 7110.65, chapter 13, tables 13-1-1, 13-1-2, and 13-1-3.

15. The coordination menu and free form text are available for use even after handoffs are accomplished. The 7110.65 (chapter 13) requires the use of the coordination menu or a flight progress strip to record completed coordination "where automated coordination with a facility is not available". Therefore, although free form text may be more descriptive, we are sometimes limited in using it by the requirements of the 7110.65. See also Section V, Para. 19.

SECTION III – SECTOR SET-UP PROCEDURES

1. Before the scenario starts, the Instructor must:

   A. Stuff the arrival strips and sequence them in time order.

   B. Maintain the strips in a designated area for reference during the scenario.

2. The Instructor must open the ACL prior to the start of the scenario and use the bookkeeping box to indicate aircraft on frequency.

3. Students must be ready (with headsets on) to enter the lab at the start time. The scenario should be started when the students enter the lab. Our scenarios assume that the sector has just opened; therefore, the student will skip the preview portion of the briefing.

4. Students must do the following as part of the position relief process:

   A. View SIGMET, GI, weather and altimeter information. (Students must also watch for updates of this information during the scenario). Note that “view” means the student reads and acknowledges information where appropriate.

   B. Open the sector OUTAGE and STATUS windows and view the contents, inform the Radar Controller via an override call when ready for a briefing. When instructed to give a verbal briefing towards the end of the scenario, select the PSN key to record the position relief briefing.

   C. **Listen to the briefing**. Ask for clarifications if necessary. Students must not highlight any entries until after they accept the Radar Associate Position. Indicate to the Radar Controller the information is understood and then give your initials. Student must not set up the EDST until the briefing is complete and any higher priority items are addressed.

   D. Check the radar for any tasks that require immediate action.

   E. Set up the EDST.

      i) Select display coordination column.

      ii) Select drop track delete.

      iii) Configure windows.

      iv) Set up GPD map

         a. Set desired range
         b. Center the map
         c. Sector Boundaries: select Ultra – Low and Low (default) deselect others.
         d. Center Boundaries: select ZFW and ZHU
         e. Special Activities Airspace: select Active
         f. Approach Control Boundaries: select
         g. Airways: deselect V
         h. NAVAIDs: select (default)

SECTION IV – PROCEDURES

GENERAL

1. The Radar Controller must verify the assigned altitude and Mode C on initial contact. The Radar Controller must then dwell lock the appropriate data block to designate to the student that the aircraft has checked on frequency. The student must put a Voice Communication Indicator in the bookkeeping box.

   Note: This is the procedure used at Aero Center to allow the Instructor to know that the student is correlating the Radar position's data with the RA position's data.

2. When blocking airspace for another sector, for example in the HEZ shelf, the student must start a track in the shelf called AOBXXX where XXX is the upper altitude of the blocked airspace. There is no requirement for (or prohibition against) an interim or assigned altitude since the call sign indicates the altitude blocked.

3. If a paired track exists and we have separation responsibility for the aircraft, we must maintain a full data block (FDB). All aircraft in sector 66 airspace (whether on frequency or not) or pointed out to sector 66 must have FDBs if it is possible to do so. (Aircraft that are pointed out by JAN and MLU APCH may remain as LDBs if they are unpaired but must be displayed as FDBs if they are paired).

4. When a student approves an altitude change that allows an aircraft to climb or descend into the sector, for example, when JAN APCH requests higher or sector 45 requests lower, the student must update the data block with the appropriate interim or assigned altitude and advise the Radar Controller. (This does not include KGWO departures).

5. A block altitude must not be compressed. Unless the pilot is requesting no altitude changes, a block altitude may be moved up or down but cannot be moved, either in part or in full, into another altitude stratum (AOA240). The combining of flight levels and altitudes is not allowed when assigning a block altitude. (ie.170B180)

6. A student may not move an aircraft up into sector 45's airspace (AOA FL240) to achieve separation. The student also may not "reach out" to a previous sector and have that aircraft rerouted completely out of sector 66's airspace to avoid traffic or special use airspace.

7. In order to demonstrate the consequences of a missed readback /hearback error, the aircraft must fly any uncorrected route or altitude clearance. For example, a KGWO departure is cleared to 4000 feet. The prompt sheet may call for a readback of 14,000 feet, which is not caught and corrected by the student. The aircraft must depart with a clearance to 14,000 feet.

8. The Instructor should encourage students to refer to general aviation aircraft using manufacturer or model instead of November to show awareness of aircraft type.

SECTION IV – PROCEDURES (CONT'D)

GENERAL (CONT'D)

9. In a 6-7-10 amendment, field 10 must begin with the element separator that connects field 6 with the rest of the route in field 10, or the fix in field 6.

   Example: New route is SQS210025..SQS.V535.HLI..M41. Field 6 is SQS210025, field 10 must be either:

   ..SQS.V535.HLI..M41 or

   SQS210025..SQS.V535.HLI..M41

10. The following RANs (Route Action Notification) must be addressed by the student as follows:

    A. Unrecognized routing (blue XXX or???) must be changed to reflect correct, computer-recognized routing. The student must ensure that the Radar Controller has issued correct routing to the pilot.

    B. Class marked ATC Preferred Routes (APRs) only need to be issued to comply with TMU initiatives.

    C. Embedded Route Text (ERT) routing must be issued.

11. Aircraft inbound to KSTF, KTUP, KGTR, KCBM, and KUBS that are in confliction with either MEI 1 West MOA/ATCAA must be routed around the northern side of the restricted area.

12. Students must identify aircraft proceeding through JAN approach that conflict with MEI 1 West MOA and offer a solution to the Radar Controller.

13. When an aircraft will cross the boundary in a climb or descent to JAN/MLU APCHs, the student must APREQ the climb/descent after the handoff has been initiated. Emergency situations, however, must be coordinated as soon as possible which may be before the handoff is initiated.

14. Prompting of students to perform required tasks is not allowed by the Radar Controller. Any prompting of students will be done by the Grading Instructor only. During evaluation scenarios there will be no prompting.

15. Students are required to adhere to flow control procedures and TMU reroutes.

16. Students must complete tasks in the order of highest priority first. For Example:

    A. An aircraft requiring a point out 3 minutes flying time from the boundary is a higher priority than an aircraft 5 minutes flying time from the boundary.

    B. The coordination for an emergency is a higher priority than the stripmarking associated with the emergency.

17. Through 25 reserved.

SECTION IV – PROCEDURES (CONT'D)

DEPARTURES

26. A departure clearance is effective upon termination of the call. A call is terminated when the student gives their initials. If an incorrect call sign is given, an error occurs as soon as the remote has corrected or asked to verify the call sign.

27. Students must enter a Departure Message (DM) on KVKS and 0M8 departures once the clearance has been issued, then start a track using the call sign/CID and enter the interim altitude assigned in the clearance.

28. Void times must be reasonable (10-15 minutes).

29. Students must make safe and efficient altitude assignments to departures. "Highest available altitude" is not a requirement.

30. An aircraft requesting an immediate departure and/or unrestricted climb, (for example VVBA07 off KGWO), is subject to the same rules for separation from overflight aircraft as any other departure. The student must issue the highest altitude available and route the aircraft around SUA (CBM3, MEI 1/2 West MOA/ATCAA) if necessary. If the aircraft is rerouted the student is responsible for advising the R-side to clear the aircraft back on the filed routing when available.

31. Students must negotiate an altitude with the R-side concerning arrival aircraft before releasing/clearing a departure from the same airport if:

    The arrival is 8 minutes or less from the NAVAID serving the airport and Sector 66 has control of the aircraft.

32. KGWO..IGB, KGWO..HLI, KGWO..MLU, KGWO..AEX, KGWO..SWB, KVKS..SQS, etc. are all outside of NAVAID limitations for all aircraft (except GNSS equipped aircraft /L, /V, /S, or /G). RNAV requires radar monitoring. Revised routings, for example, via KGWO..SQS or KVKS..MHZ or 0M8..MHZ will allow departure clearances to be issued in the above circumstances. The student must advise the Radar Controller to clear the aircraft back on its filed routing; failure to do so will result in an error.

33. Aircraft with GNSS capability (/L, /V, /S, or /G) may be cleared off an airport via a point to point route provided the points are published NAVAIDS, waypoints, fixes, or airports. The points must be displayed on controller video maps or depicted on the controller chart displayed at the controller position. When applying nonradar separation the maximum distance between points must not exceed 500 miles, and you must protect 4 miles either side of the route centerline.

34. For 0M8 and KVKS departures, a change to the next fix by the student requires use of the "Verify this clearance…" phraseology. For example, an aircraft is filed 0M8..SQS..XXX and sector 67 is unable to block. The student clears the departure via 0M8..MHZ..SQS..XXX. The revised routing is still impacted by traffic pattern and terrain/obstruction avoidance issues and the clearance must be verified to allow compliance.

    A. For training purposes all primary airports, secondary airports, VORs and VORTACs are known to be displayed at sectors where they are located.

SECTION IV – PROCEDURES (Cont'd)

DEPARTURES (CONT'D)

35. Departure clearances must be issued in the correct order using:

    A. Clearance limit

    B. Correct route including ERT routing if applicable

    C. Altitude

    D. A different expected altitude when the requested altitude is not available

    E. Beacon Code

    F. Clearance void time if applicable

    Note: An abbreviated departure clearance may be issued if the necessary criteria are met.

36. Although a track is over the airport, a point-out can only be made once an aircraft is radar-identified.

37. When a final altitude or routing other than what was requested is issued to an aircraft departing a secondary airport, the flight plan must be updated prior to track acquisition.

38. Students must include ERT routing (if printed on the strip) for departure aircraft as part of the clearance. Students must refer to "STAR" routing by name and transition (if there is one) when issuing the routing or advising the R-side to issue routing.

39. When a clearance is requested, a delay occurs if the clearance is not issued:

    A. When available (coordination, if any, is done and traffic allows)

    B. By the end of the scenario

    C. When SYD is available

    D. An EDC expires

        i) Students must issue an EDC of no more than 10 minutes from the current clock time.

40. EDCT, EDC and EFC times must be updated before they expire.

41. Through 45 reserved.

SECTION IV – PROCEDURES (CONT'D)

DEPARTURES - KVKS

46. KVKS departures must be issued a complete clearance (or an abbreviated clearance when appropriate) including clearance void times.

47. Issuing direction of takeoff and turns is not required unless necessary for application of initial separation, but must be solicited if issued.

48. A KVKS departure filed through JAN approach that conflicts with MEI 1/2 West MOA is not JAN approach's problem. The student must recognize the confliction and reroute or issue an altitude (or expected altitude) that will miss MEI 1/2 West MOA.

49. For departures filed from KVKS to SQS, if the student reroutes the aircraft due to NAVAID limitations, they are responsible for advising the Radar Controller to re-clear the aircraft direct to SQS.

50. Through 55 reserved.

DEPARTURES – 0M8

56. For departures filed from 0M8 to SQS, the student must always coordinate with sector 67 first and attempt to obtain the blocking of airspace. If sector 67 is unable to approve the block, the student must issue an alternative clearance.

    Example 1: Upon receiving clearance request, student coordinates with Sector 67, if necessary, to block altitudes and route of flight.

    "APREQ. Block five thousand and below for a Byerley departure direct Sidon"

    Students must indicate the next fix or direction of flight when blocking airspace and follow up with a point out (when necessary) after departure and radar identification.

    Example 2: Clear aircraft 0M8 MHZ SQS then as filed. This clearance may be used if Sector 67 is unable to approve the block as requested in Example 1. The student is responsible for making the point out to Sector 67 (if needed), then advising the Radar Controller to clear the aircraft direct to SQS.

57. Through 60 reserved.

SECTION IV – PROCEDURES (CONT'D)

DEPARTURES - KGWO

61. KGWO departures must be released to the destination airport (either the center or tower controller must state this) with an assigned altitude. A complete clearance must not be issued when only a release is required. Adding any additional verbiage such as "as filed" is an error.

    Example: "N123C released, maintain four thousand."

    OR

    "N123C released to Tulsa airport, maintain four thousand."

62. It is appropriate to use the word "released" twice when combining visual separation with a departure release.

    Example: "N123C released to Tulsa airport maintain six thousand. Visual separation approved between N123C and N246GG. N123C released."

63. When a KGWO departure cannot be immediately released, an EDC time must be used**.**

64. The following two examples might be used in cases where an aircraft files KGWO..IGB or KGWO..HLI, both of which are outside of NAVAID limitations for non-GNSS aircraft.

    Example 1: Upon receiving clearance request for KGWO..IGB, the student coordinates with next sector prior to issuing clearance.

    "In suspense, N123C assumed KGWO departure 1200 climbing to seven thousand via V278." Student then issues a heading to join V278 as part of the clearance.

    Example 2: Student re-clears the aircraft via KGWO SQS HLI then as filed or KGWO SQS IGB then as filed.

65. Visual separation between an arrival and a departure is a delay if the arrival is not turning base or nearer. For aircraft farther out, the student must use some other form of separation, e.g., vertical separation if available.

66. Through 68 reserved.

SECTION IV – PROCEDURES (CONT'D)

VFR AIRCRAFT

69. When a VFR calls, the Radar Controller must allow the pilot to make a request instead of assuming it is a request for IFR. If the VFR aircraft is requesting an IFR clearance, the Radar Controller, without prompting from the student, must ask if the pilot has a flight plan on file.

    If a flight plan is on file, it must be located and departed by the student.

    If no flight plan is on file, then the pilot must be advised to contact Aero Center FDU to file. No clearance should be issued unless pilot then reports back on frequency requesting a clearance.

70. Students may use a VP message to enter a VFR flight plan. It must not be used to enter an IFR flight plan or by the Radar Controller.

71. Through 75 reserved.

SECTION IV – PROCEDURES (CONT'D)

HOLDING

76. When holding at SQS is required in radar scenarios, holding must be on either the SQS256R or the SQS180R (for pilot program purposes).

    Missed approach aircraft at KGWO will hold only on the SQS256R and will require a point out to sector 67. The student must coordinate when aircraft leaves holding. Aircraft holding at SQS for weather will hold on the SQS180R.

77. Holding for MLU arrivals must be at STUEE. Students are required to make all point outs to 67 and F30, and include pertinent information. The student must coordinate with 67 and F30 when aircraft leaves holding.

78. For flights in hold, use the Hold template to record instructions and then display holding instructions on the ACL for the sector team.

79. Flights in hold must be placed in the SPA (Special Postings Area).

80. EFC times must be updated before they expire.

81. Through 85 reserved.

ARRIVALS

86. Students must enter a Remove Strip (RS) message after the receipt of an arrival time or the cancellation of IFR and all coordination has been accomplished for aircraft landing at KVKS, KGWO and 0M8.

87. When a conflict involves a sector 66 arrival (including KJAN and KMLU) and an overflight, and vertical separation is used to resolve the confliction, the arrival must either be moved under the overflight or the overflight must be climbed above the arrival.

88. Students are responsible to investigate the status of an arrival when no arrival time is received.

89. Through 94 reserved.

SECTION IV – PROCEDURES (CONT'D)

IAFDOF

95. For IAFDOF aircraft entering sector 66, students must identify the reason to the Radar Controller prior to the boundary. Aircraft meeting the requirements of Order JO 7110.65, par. 4-5-3, may remain IAFDOF with coordination, including the reason (which must still exist). Coordination with a receiving controller must be completed prior to frequency change or 2.5 miles from the next sector boundary, whichever occurs first. IAFDOF altitudes which were fixed are not required to be forwarded to the next sector as if they were a requested altitude.

96. IAFDOF color coding must only be deleted once coordination has been accomplished or the student determines the LOA altitude overrides the IAFDOF.

    Example: SQS J35 MCB indicates on ACL that even altitudes are IAFDOF, however, the LOA requires these aircraft to be at even altitudes

97. Through 105 reserved.

FL180 NOT USABLE

106. For aircraft already in sector 66 at FL180 when it becomes unusable, the student must suggest a viable alternative to the Radar Controller.

107. For aircraft that are at FL180 and still outside sector 66 airspace, the student must take action to ensure the aircraft enters sector 66 with an assigned usable altitude/flight level (may still be climbing or descending when crossing the boundary) unless separation issues require the aircraft to enter the sector level at a usable altitude.

108. The student is responsible for changing and issuing the correct assigned altitude for 0M8, KVKS, and KGWO departures requesting FL180 when it is unusable and requested.

    KVKS/0M8 Example "….EXPECT ONE SIX THOUSAND ONE ZERO MINUTES AFTER DEPARTURE, FLIGHT LEVEL ONE EIGHT ZERO IS NOT AVAILABLE."

    Students are responsible for forwarding the request for FL180 to the next intra-facility sector. This coordination may be accomplished by using either interphone communications or 4th line data entry.

    A RED W is optional on the departure strip of an aircraft that filed FL180 as a final requested altitude when FL180 is not usable.

    Note: The Radar controller is responsible for changing and issuing the correct assigned altitude for KJAN and KMLU departures requesting FL180 and entering the request in the 4th line if necessary.

SECTION IV – PROCEDURES (CONT'D)

FL180 NOT USABLE (CONT'D)

109. For aircraft coming from sector 45 requesting FL180; the student should issue a usable altitude, enter that altitude in the data block and coordinate with the R-side. The student doesn't have to tell the R-side that FL180 is not usable.

110. Through 111 reserved.

CONTROL JUDGMENT

112. Excessive separation for no reason:

    A. Students must not separate aircraft from SUA when it is inactive.

    B. Students must not climb overflights so a departure can be cleared to a safe altitude when a safe altitude already exists.

    C. Students must not move yellow alert aircraft unnecessarily.

    D. Students must not unable a pilot or controller request unnecessarily.

        For example: A KGWO departure is stopped at 70 for a final altitude when the CBM 3MOA is cold and the aircraft is requesting above 70.

113. Through 115 reserved.

PRIORITY OF DUTIES

116. Students must perform duties in order of their importance.

    A. *Students need to know that separation is the highest priority. If aircraft lose separation they need to take a corrective course of action immediately to separate the aircraft. This could be as simple as asking the R-controller to separate the aircraft with no specific resolution given.*

    B. Flying time to the conflict must be one item considered in determining priority when multiple tasks are necessary if time/urgency is an issue.

    C. These are some examples of priority items in no particular order:

        Higher Priority Items: Emergencies, separation, making and receiving point outs, making and receiving handoffs, APREQs, reacting to pilot requests concerning significant weather such as icing, turbulence or other severe weather phenomena, answering landlines, etc.

        Note: The student must answer landlines when there is no other higher priority duty (the sequential display or checking of route lines on the GPD is not a high priority duty).

        Lower Priority Items: Displaying routes on GPD or radar display, handling flight progress strips, entering a VP message.

SECTION IV – PROCEDURES (CONT'D)

117. Through 120 reserved

EMERGENCIES

121. The following procedure must be followed for handling emergencies. Students must consider priority of duties when dealing with emergencies. For example stripmarking is a lower priority than accomplishing coordination.

    A. The student must coordinate with the appropriate sectors/facilities and inform the Supervisor (including information that the aircraft is also a destination change if appropriate).

    B. The student must record the red E and emergency information on the aircraft's flight progress strip.

    C. If the emergency aircraft lands at KJAN or KMLU, the student must take the strip down upon frequency change.

    D. If the emergency aircraft lands at KGWO, the student must remove the strip from the bay (and the computer), once GWO tower calls with a landing time.

    E. If the emergency aircraft lands at KVKS or 0M8, the student must obtain a landing time from ZAE FDU and provide that time to the Supervisor, then remove the strip from the bay.

122. Through 125 reserved.

TRIAL PLANNING

126. Trial planning by the student of every clearance issued is not required. Many clearances to airborne aircraft on sector 66 frequency may be issued by the Radar Controller without waiting for the student to trial plan. While the use of trial planning for resolving predicted conflictions (other than conflict alert) is encouraged, trial planning to determine the feasibility of granting user requests may be dependent upon other sector priorities and is, with Instructor guidance, up to the student to determine.

127. Students must be aware that the accuracy of trial planning degrades over time. Students often trial plan and write themselves notes in free form text regarding control actions they are planning to take, some of which are many minutes in the future. Traffic situations are fluid and can change substantially in a short time.

128. If trial planning a reroute for separation, students must trial plan fixes in order flown, instead of routing an aircraft direct to destination. (Trial planning to an Intersection/waypoint/DME fix is not an error if it can be navigated, but is not required.) **In no case can an aircraft be cleared past the last fix before the start of any STAR.**

129. Through 132 reserved.

SECTION IV – PROCEDURES (CONT'D)

POSITION RELIEF BRIEFING

133. Instructors will ask students for a position relief briefing after scenarios have run for a minimum of 40 minutes. Relief briefings must be complete and concise. The student will continue to work the scenario until the briefing is complete. Briefings longer than five minutes are seldom required. This briefing must take place while the problem is still running.

134. When the student receives a briefing from the Radar Controller at the beginning of the scenario, both R-Side and D-Side must display the Outage View and Status View.

135. When the student gives a briefing to the grading Instructor at the end of the scenario;

    A. Only the student is required to display the Outage View and Status View.

    B. The student must verbally relay the SIA information.

    C. The student must brief on current weather conditions in the sector and at the airports. Airport weather is obtained from the METAR reports for KJAN, KMLU, KVKS, and KGWO. Normally a statement of VFR or IFR weather conditions is sufficient.

       NOTE: At Aero Center, basic VFR minimums are considered to be visibility of 3 miles/1000 ft. or greater.

    D. The student must brief on the approach in use at KGWO.

    E. Traffic portion

       - Briefing must be conducted according to the ACL **and active strip bay**.
       - Students must inform the relieving controller which aircraft are on frequency.
       - Students must brief on pertinent information concerning aircraft in sector
       - Example: "N1234 is on frequency holding SW of SQS. Has been pointed out to sector 67 or something similar."

136. The student should interrupt the briefing only to perform critical activities.

137. The student should use good judgment about choosing whether or not to answer lines during the briefing.

     Note: Generally, dial lines may be allowed to ring.
     Holler lines may be answered by the Radar Controller.

138. Through 142 reserved.

SECTION IV – PROCEDURES (CONT'D)

LETTERS OF AGREEMENT (LOAs)

143. Aircraft cleared via V9 or J35 or between the following fix pairs, SQS/MCB, MHZ/MCB or ROMAR/MCB, are subject to the provisions of ZAE and ZHU LOA, para. 3 a. (3) (north – odd, south – even).

    A. Students must comply with this rule when releasing/clearing departures.

    B. Students must identify the problem to the Radar Controller and suggest a viable alternative for overflights.

    C. Aircraft cleared via other routes, regardless of the route appearance on radar, are not subject to the provisions above.

SECTION V – COORDINATION

GENERAL

1. An example of the preferred phraseology to request an aircraft at a different altitude is “Request AAL121 at one five thousand.” When receiving such a request from another controller, the proper response could be either; “AAL121 at one five thousand (initials)” or the use of “AAL121, WILCO (initials)” in your response indicates “I have received your message, understand it, and will comply with it”.

2. The override lines will be used to coordinate with intrafacility sectors. Dial lines will be used to coordinate with GWO tower and GWO FSS. Holler lines will be used to coordinate with interfacility sectors, JAN Approach, and MLU Approach.

    A. It is unacceptable for students to answer the line and use the phrase “Call me back”. If a student must leave a conversation for a higher priority task, they should use the phrase, “I’ll call you back."

    B. Students are expected to combine calls when possible.

3. Interfacility and intrafacility Automated Information Transfer (AIT) must be in accordance with FAA Order JO 7110.65, paragraphs 5-4-8 through 5-4-10. This does not imply that students have sole responsibility for the entry and/or removal of 4th line data.

4. With the exception of emergencies, a handoff (either automated or manual) must be initiated prior to any verbal coordination of aircraft.

5. Flight Service, when used by controllers, remotes, pilots and ghosts during nonradar and radar scenarios, must be referred to as “Greenwood Radio.”

6. Use of “override and send” or /OK require verbal coordination before action is taken.

7. In circumstances where a high altitude controller requests a lower altitude for an aircraft that will enter Sector 66 but that is currently over an adjacent sector, coordination with the adjacent sector can be considered to have been accomplished by the high altitude controller who is requesting lower.

8. When responding to a request from another controller, such as receiving an APREQ for a block altitude, the student must repeat the ACID, the request and “approved”. In lieu of a lengthy request readback, however, the student may use abbreviated terms or “ACID, approved as requested”.

9. Students must answer landlines promptly or an error will be assessed.

10. Students must coordinate departure clearances with the Radar Controller immediately after the issuance of the clearance unless the clearance was negotiated with the Radar Controller prior to the clearance being issued. The airport name and altitude cleared to is sufficient. An example of phraseology is “Greenwood departure climbing to five thousand.” There is no requirement for the student to inform the Radar Controller about KJAN or KMLU departures since a radar handoff occurs.

11. When a handoff is observed with a mismatch (MISM), the Radar Controller must advise the student. Students must inform Supervisors about each MISM.

SECTION V – COORDINATION (CONT'D)

12. When a handoff generates DATA in field E of the data block, the student must call the transferring controller and verify the position of the target. The student must then enter a Track (QT) CID message on the aircraft and inform the Radar Controller. The Radar Controller must advise a student when DATA is observed so that the student may initiate DATA procedures.

13. "(ACID) Radar contact" is the only appropriate response, assuming the position is verified, to all position verifications whether generated by a DATA indicator or an inoperative transponder.

14. When manual handoffs are required, it is the student's responsibility to initiate/receive them.

15. The student must advise the Radar Controller immediately after accepting a handoff or point out. For targets that are in close proximity to the radar associate position, physically pointing at the targets on the radar is allowed and is sometimes preferred instead of lengthy descriptions of target location.

16. When a student takes a manual handoff, they do not have to say the words "start track." "I took a handoff on code 1234 at MCB," or "I took a handoff on code 1234 at MCB, the code is good," or "I took a handoff on code 1234 at MCB, start track on UAL122," or something similar is acceptable. Saying something like "start track on code 1234 at MCB" does not sufficiently indicate what the student did, i.e., took a handoff. The student does not have to state a specific mileage from a fix when communicating with the Radar Controller about the handoff.

17. Radar Controllers are responsible for starting tracks when manual handoffs are taken by the student.

18. The student must promptly inform the Supervisor of any event which has a significant impact to the operation of the sector including changes of destination (including the reason) for all aircraft except military, and:

    - <u>The first time of:</u>
        - significant weather such as moderate or greater turbulence
        - unexpected holding when a verbal call is received prior to a GI message being received
        - emergency aircraft
        - NORDO aircraft
        - changes in SUA status and NAVAID outages or malfunctions

    - <u>Two or more of:</u>
        - equipment outages or malfunctions, including failed handoffs and accepting manual handoffs
        - weather deviations

    - *TMU reroutes, new EFCs, extensions to previous holding, CWAs, and SIGMETs are excluded from the requirement of having to inform the Supervisor.

SECTION V – COORDINATION (CONT'D)

19. If a military aircraft changes destination, the Radar Controller must solicit a new ETA and fuel remaining in time without prompting from the student. The Radar Controller must legibly record the aircraft call sign, ETA and fuel remaining in time on a flight strip. If the student is on a landline, the Radar Controller must also include the current clock time on the flight strip. A report of remaining fuel in time (hours and minutes) must be converted to a fuel exhaustion time (UTC) by the student prior to coordination with FSS. (Scripts will contain either fuel remaining or fuel exhaustion time but not both). In this case the student must be aware of the clock time at the time of the clearance. The student must record the coordination on either the original or amended flight progress strip.

20. Where automated coordination with a facility is not available, use the coordination menu or a flight progress strip to annotate manual coordination status, in accordance with facility directives – e.g. point outs to facilities to which you are unable to force an FDB. At Aero Center, the coordination menu is not required for use on manual handoffs. The coordination menu must be used for only one coordination event per aircraft. If there is other information for the same aircraft that would normally be recorded in the coordination menu, it must be recorded in free-form text or on a flight progress strip.

21. Supervisors must coordinate with tower Supervisors to obtain landing times for emergency aircraft landing at KGWO, KMLU, or KJAN. The student must obtain landing times for emergency aircraft landing at KVKS or 0M8 and provide that time to the Supervisor.

22. Students must convey the exact message to the R-side, next controller and/or supervisor. Accuracy is essential. For example:

    A. Turbulence must not be relayed as chop.

    B. Smoke in the cabin must not be relayed as smoke on the flight deck.

23. Students must APREQ a block altitude with the next sector only after sector 66 has initiated a handoff to the next sector.

24. Students are required to comply with the next controller's request if feasible. If students are unable to comply with the next controller's request, it must be coordinated.

25. Students are required to cancel the use of coordinated airspace when it is no longer needed.

26. Students must perform the correct type of coordination concerning APREQs, Point Outs, and requesting control.

27. Enroute aircraft requesting an altitude change: If a pilot's in-flight request for an altitude change cannot be granted, the student must ensure that the requested altitude is entered into the flight plan or 4th line data entry, or coordinated with the next sector by using interphone communications as necessary.

SECTION V – COORDINATION (CONT'D)

28. Students must be aware there are many factors to consider in deciding whether to get control on an aircraft. Some of those factors are:

    - Position of the aircraft
    - Aircraft's speed
    - Aircraft's route of flight
    - Location and time of confliction

29. When a student tells the Radar Controller to climb/descend an aircraft or turn/clear an aircraft on a certain route, the student must advise the Radar Controller the reason for such action.

30. Through 30 reserved.

DEPARTURES

31. Coordination of departures, if required, must be done in a timely manner. For example:

    A. KGWO directly into sector 12/65 – coordinate prior to issuing clearance.

    B. 0M8..SQS – coordinate with sector 67 prior to issuing clearance.

    C. 0M8..GLH – coordinate with sector 67 prior to issuing clearance.

32. There is no requirement to APREQ a KVKS departure either inbound to KJAN/KMLU or overflying JAN/MLU APCH airspace prior to issuing a clearance.

33. Secondary airport departures: Requested altitudes must be forwarded to the next intra-facility sector if the requested altitude cannot be issued to aircraft operating in sector 66 airspace. It is the student's responsibility to forward these requested altitudes before the aircraft exits sector 66 airspace.

    Example 1: A KGWO departure filed V11 HLI requesting 90 and must be stopped at 70 because the CBM MOA is active. The student must amend the altitude to 70 in the computer and then forward the requested altitude of 90 to D12.

    Example 2: A KVKS departure requests FL180 and it is unusable. The student must amend the altitude in the computer and then forward the requested altitude to the next intra-facility sector.

    Note: This coordination may be accomplished by using either interphone communications or 4th line data entry.

34. Through 38 reserved.

ARRIVALS

39. KVKS arrivals must be "cleared approach." Weather permitting, emergency aircraft, MEDEVAC aircraft, or other aircraft when requested by the pilot, may be cleared for a visual approach. KVKS arrivals must not be forwarded to ZAE FDU. ZAE FDU will call with down time or the aircraft will cancel IFR on frequency.

SECTION V – COORDINATION (CONT'D)

40. KGWO arrivals must be vectored for ILS18 approaches. (Use of the term "straight-in" is not required when clearing for the approach after vectoring to final). However, weather permitting, and when requested by the pilot, an aircraft may be cleared for a visual approach. Appropriate coordination is required with GWO tower.

    Note: All KGWO visual approaches require information to be forwarded to GWO tower, i.e. the intent to make a visual approach and the aircraft position relative to the airport..

    Example: A visual approach to a runway (e.g. runway 5) other than the active runway also requires an APREQ with GWO tower. The student needs to know the Radar Controller's plan before coordinating with GWO tower.

41. 0M8 inbounds must not be forwarded to ZAE FDU.

42. 0M8 inbounds should be cleared for approach.

    Note: This will require getting control and blocking (and canceling) approach airspace with Sector 67.

43. A student can get control of a 0M8 arrival as soon as there is a limited data block on the radar display.

44. 0M8 arrivals- the airspace blocked must be APREQ'D.

45. Through 48 reserved.

POINT OUTS

49. A point out is a transfer of radar identification; therefore, point outs must be accomplished only on aircraft that have been radar identified. Also, only aircraft that have been told "radar contact" can be considered to have been radar identified.

50. It is the responsibility of the student to perform all point outs to the correct sector using the correct format and phraseology. The Data block is to be "sent" and then the sector is called. A point out is complete when the words "point out approved" have been received.

51. The Radar Controller must not send a point out message to the ACL. All point out messages must be sent by the student.

52. Point out and sector number color coding on the ACL (e.g., P65) must be deleted only when coordination is complete.

53. Point outs to any facilities when a FDB is not sent –point outs on aircraft that are climbing or descending need a statement of altitude leaving in order for the receiving controller to either validate Mode C or use the altitude leaving for separation.

SECTION V – COORDINATION (CONT'D)

54. Students are required to state the appropriate altitude information when making a point out if the data block forced on the receiving controller's scope does **not** accurately reflect what the aircraft is doing.

55. **Intrafacility procedures** for **KJAN terminal departures** requesting climb into a high altitude sector that will transition through an adjacent low altitude sector's airspace: The student is not required to use the altitude statement "climbing to high" on required point outs as long as FL230 is in the data block before the PVD is sent.

56. Point outs completed where there is no ability to send a data block must be indicated in the coordination menu by selecting route, beacon, and altitude and clicking coordinate. This includes point outs to ZHU/ZFW that are accomplished after a handoff is started or an aircraft has entered holding.

57. When pointing out aircraft that are "climbing to high" and the climb is going to be delayed, students must include that as pertinent information in the point out. Example: "Point out southeast of GLH, American Eleven, currently stopped at FL200 for traffic, will be climbing to high at the boundary" (or something similar).

58. Between ERAM facilities, the student must (if able) force the data block to the receiving controller's display. Also, if issuing traffic for a point out between ERAM facilities, force the data block of the traffic to the transferring controller's display.

59. Students may send the data block to the receiving controller's display when they recognize that a point out is necessary, but must not call the receiving controller to complete the point out until the aircraft is at a reasonable distance from the receiving controller's airspace:

    A. A reasonable distance when dealing with sector boundaries is 25 miles or fewer from the point where an aircraft will conflict with the next sectors protected airspace.

    A complete point out is not made by only sending a data block or only calling the receiving controller. Students must be taught that both actions must be done to make the process complete.

    Note: Sending data blocks without there being a subsequent need to complete the point out is an error.

60. Point outs where a data block cannot be sent and a manual point out must be made, the point out must be completed at a reasonable distance from the receiving controller's protected airspace:

    A. A reasonable distance when dealing with approach control boundaries is 15 miles or fewer from the point where an aircraft will conflict with an adjacent facility's protected airspace.

SECTION V – COORDINATION (CONT'D)

61. In situations where the student receives a point out and has traffic for the point out, it is sometimes appropriate and preferable, especially in cases where the traffic is more than one aircraft or the situation is complex, for the student to turn the point out into a handoff and say "Aircraft ID, restrictions (if needed), radar contact". In fact, one of the main teaching points here is for the student to develop some judgment about when they should work aircraft versus saying point out approved.

62. The call sign of the traffic must be used if known when replying with "traffic observed".

    Example: "American 212, traffic observed."

63. Students must not point out aircraft unnecessarily when there is assurance by looking at the radar display or reading the route of flight that a point out is not required. For example: Aircraft on V9 or V535 and direct routes that mimic those airways do not require a point out to 67 or 15 respectively.

64. Through 65 reserved.

CONTROL VS. POINT OUT

66. A point out is a transfer of radar identification. Control is what you get from transferring (previous) controllers. "Getting control" when coordinating with a transferring controller typically means receiving permission to change some aspect of the route or altitude of an aircraft. Control may be obtained from a:

    A. Control position from which an aircraft has been handed off but is not yet clear of their airspace/protected airspace.

    B. Control position that received a point out from a previous sector providing the point out is within their airspace/protected airspace.

67. Point outs concerning: 1. VFR requesting IFR, and 2. descending aircraft.

    Example 1: A VFR aircraft in another controller's airspace requesting an IFR clearance from you requires a point out to the controller in whose airspace the aircraft is located before a clearance can be issued. The pertinent information is "VFR requesting an IFR clearance."

    Example 2: If you want an IFR aircraft above JAN APCH to descend through JAN APCH airspace, this requires a point out, not getting control from JAN APCH.

68. Through 75 reserved.

SECTION V – COORDINATION (CONT'D)

APREQS

76. An APREQ (approval request) is a request for approval of a control action that will affect the receiving (next) controller(s). It is the responsibility of the student to perform all necessary APREQs to the correct sector using the correct ACID. Failure to do so will result in an error. Unnecessary APREQ's also result in an error. Some examples of APREQs:

    A. IAFDOF

    B. Block altitude

    C. Visual approach (VA), runway for VA if other than active runway, position of arrival on VA

    D. Aircraft climbing or descending into non-ERAM facilities

    E. Exceptions to LOAs

    Example 1: The student calls D67 and receives approval for N123 at FL210 IAFDOF. The student response to the R-side would be;

    "N123 approved at FL210" (or something similar).

CONTROL EXAMPLES

Note: There is no defined phraseology for off-line verbal communications between controllers in the Enroute environment. After getting control and/or accomplishing a point out or APREQ, students must advise the Radar Controller that the coordination has been completed. The procedure at ZAE will be that the student must inform the R-side of the call sign and the altitude limits (if any), of their coordination. When the student reports that coordination has been accomplished, the R-side will assume the necessary coordination has been completed correctly.

Example 1: An aircraft at 170 over MLU VORTAC but on Sector 66 frequency requests to begin descent into KVKS.

The student gets control for descent from MLU LO only. The student must communicate to the Radar Controller:

"Descent to 130 is approved for N1234", or "N1234 can descend to 130" (or something similar).

Example 2: An aircraft at 170 over MLU VORTAC but on Sector 66 frequency requests to begin descent into KVKS.

The student gets control for descent from MLU LO, and then points the aircraft out to MLU APCH. The student must communicate to the Radar Controller:

"Descent into Vicksburg is approved for N1234", "N1234 can descend into Vicksburg", or N1234 may be cleared for approach into Vicksburg" (or something similar).

Note: If the student fails to coordinate with either MLU LO or MLU APCH, the grading Instructor will inform the student of the error and instruct accordingly.

Example 3: This clarifies the steps a student must follow when an aircraft makes a request to change its route/altitude, but the aircraft is not in Sector 66 airspace and any change will affect more than one controller's airspace.

N123 is 15 miles N of MLU at FL210 eastbound. The aircraft is still in F30's airspace and requests an altitude of FL190. N123 will transition through Sector 67 prior to entering Sector 66 airspace. Sector 66 must coordinate the altitude change with BOTH F30 and Sector 67. Once the student completes coordination with both sectors, the student must advise the radar controller;

"N123 is your control for descent to flight level 190", or "You can descend N123 to flight level 190" (or something similar).

Note: The students can assume that F30 has coordinated with Sector 67 (handoff or point out). In AERO Center the students can expect all surrounding sectors to operate in a safe manner and do their required coordination. A student's reaction time could change this coordination. For example, if the aircraft is clear of F30's airspace, coordination with F30 is not needed.

Example 4: The student calls D67 and receives control for descent and turns, and also coordinates the arrival block for N122 landing at 0M8. The student response to the R-side would be;

"N122 is your control for turns and descent, block 4000 and below approved" (or something similar).

Note: There are different kinds of control, e.g., control for turns and control for descent. Students must be specific when requesting control from the previous controller:

Example 5: N224GL in Polk Low airspace on sector 66 frequency requests climb to FL270. The student must coordinate the altitude change with Polk Low. Once the coordination is complete the student must advise the R-side "N224GL is your control to climb to FL230" or "You can climb N224GL to FL230" or something similar.

A limit MUST be given. "Your control with Polk Low" is an ERROR, "your control higher with Polk Low" is an ERROR, and "your control higher" is an ERROR.

77. Through 79 reserved.

LETTERS OF AGREEMENT (LOAS)

80. The Radar Controller is responsible to comply with all provisions of the LOAs at JAN and MLU Approach when the aircraft is above the LOA altitude and will enter an ATA.

81. Students must inform the Radar Controller of any aircraft that:

    A. Will not enter an ATA because of its route of flight and/or

    B. Is below the appropriate LOA altitude.

82. The student may, if an operational advantage will be realized, choose to APREQ a route and/or altitude that do not comply with the LOA, however, the LOA exists for a reason. We should be trying to get the student to use good judgment on when to use the LOA (most of the time) and when not to.

83. Students must update flight plan data for aircraft that are rerouted HEDUD..MHZ / BOOSI..MHZ for JAN Approach arrivals or rerouted (or vectored) through the MLU Approach ATA in order to indicate the proper routing or ATA being used. Although the aircraft may not have been cleared through the ATA via MLU087031..KMLU, HEDUD..KJAN, BOOSI..KJAN or ROMAR..KJAN, these routings may be used for route updating.

84. Through 88 reserved.

COORDINATING FLIGHT PROGRESS AMENDED DATA

89. An ERAM to ERAM interface failure requires manual handoffs and manual point outs. Since we may not know the cause, type, or other circumstances of the interface failure, we have no sure way of knowing what the receiving controller might be seeing. Therefore all manual handoffs and manual point outs (no data blocks are sent) <u>to another ERAM facility</u> must reference both beacon code and call sign as target identification.

SECTION V – COORDINATION (CONT'D)

90. When a flight plan must be forwarded verbally, students must give the entire flight plan (with the usual exception of already flown routing); however, since there is often not a posted strip and the last reporting fix and time are not available on the ACL, the student may pass the current or a future fix/time combination instead.

    Note: If a situation arises where a handoff and flight plan are given together, and the position, implied current time, beacon code, and altitude have already been given during the handoff, there is no requirement for (or prohibition against) restating those items as part of the flight plan.

91. When the interface with another facility is down, flight plans and updates to flight plans (such as times, altitudes, and routes) do not pass. The receiving controller may or may not have had a flight plan before the interface failure. Students must ask if the receiving controller has a flight plan when appropriate and pass updates. Scenarios are scripted such that sometimes the receiving controller has a flight plan and sometimes he/she does not. ZHU does get proposal strips on KVKS departures going southbound. After interface failure, southbound KVKS departures may need nothing more than a call before clearance to coordinate the departure with ZHU. When the interface is down, the requirement is to coordinate if less than 15 minutes flying time from the boundary. If a student is late in recognizing the need to pass the flight plan, they must demonstrate the understanding that making the manual handoff is a higher priority than passing the flight plan information.

92. There is no time requirement for forwarding amended data concerning previously forwarded flight plans. In instances where computer acceptance of amended data has occurred prior to the start of the handoff, manual coordination is not required. Amendments (clearances) issued after the start of a handoff require manual coordination.

93. Routing issued to aircraft must be entered in the computer or verbally coordinated. Students are also responsible for advising the Radar Controller of routes or altitudes in the computer which must be issued to aircraft (including ERT).

94. In instances where a reroute causes an aircraft to proceed into another ZAE sector that was not previously on the route of flight, coordination must be accomplished in a timely manner. Each circumstance is unique and students must exercise good judgment. (This paragraph is not meant to address those aircraft that would normally be treated as point outs.)

    Example 1: An aircraft is holding at HEDUD. The original destination is KJAN. The aircraft requests to divert to KPBF. There is adequate time to amend the route and/or altitude without verbal coordination with sector 67.

    Example 2: An aircraft requests a change to route/destination and is within 5 minutes flying time of the next sector (including holding aircraft at STUEE). The student sends a data block (if necessary) to the affected sector and coordinates to reroute the aircraft into the sector. The student informs the Radar controller reroute has been approved. Radar controller then issues new route to aircraft. The student updates flight plan in the computer. Electronic/manual handoff is started to next sector.

NOTE: If the reroute in Example 2 requires an altitude change for IAFDOF, the climb or descent should be coordinated as well, as the altitude will not be in the data block.

COORDINATING FLIGHT PROGRESS AMENDED DATA (CONT'D)

95. Fourth line data may be used to record pilot requests for altitude or route changes if the 4th line is still available for use but it is not required. If students choose to forward pilot requests using the 4th line, they must use the correct format (Para 5-4-11 of the 7110.65). These requests may also be made verbally.

    Note: R-sides/students must look at the 4th line before overwriting a previous entry. If the 4th line already has data in it (other than the destination or type aircraft), the R-side must then advise the student of the event and that the fourth line already contains data. The student must forward requests to the next sector by making a call if the event requires coordination. This will not be considered a prompt but normal sector communication.

96. Through 100 reserved.

WEATHER REROUTES AND SIDE STREAM HANDOFFS (SSHO)

101. Students must remain aware of revised clearances and deviations that alter routes of flight and make appropriate EDST route entries. Students must also be aware of additional tasks that may result from reroutes and deviations such as point outs, manual handoffs, and passing flight plans.

102. For deviating aircraft, the Radar Controller must ensure the student is aware of the deviation. The Radar Controller must make the appropriate entry in 4th line data unless such an entry is not possible. The student must verbally coordinate when:

    A. Fourth line entry is not possible.

    B. When the 4th line entry does not accomplish coordination (JAN/MLU APCH).

    C. If additional pertinent information not contained in the 4th line is known. (An instruction to the pilot to advise a controller when the pilot is able to proceed on course is not pertinent information).

    Note: In instances where the data block indicates what the aircraft is doing, no verbal coordination is required with the receiving controller. Additional point outs may be required.

    Note: If an aircraft deviates away from MLU/JAN approach or ZHU/ZFW airspace, coordination with that facility is not required. To say "remove strips" or "disregard flight plan" in these instances is an error.

SECTION V – COORDINATION (CONT'D)

WEATHER REROUTES AND SIDE STREAM HANDOFFS (SSHO) (CONT'D)

103. For deviations that are completed in sector 66 airspace, the Radar Controller must remove the deviation entry from 4th line data and ensure the student is aware of the completion of the deviation. The student must update the route. If the update to the data block and/or route is not possible, the student must coordinate verbally.

104. Side stream handoffs (SSHO) can be an exception for deviations that occur near boundary crossings. In those cases, fourth line data indicating the deviation must be entered or otherwise coordinated and the handoff made without regard to route processing. SSHOs are not meant to take the place of EDST reroutes in instances where the student has ample time to update the route of flight.

105. Through 108 reserved.

SECTION VI – SEPARATION AND ALERTS

GENERAL

1. The student's response to alerts obviously varies according to the situation and to his or her level of control judgment and may include the following:

   A. Changing an aircraft's route

   B. Changing an aircraft's altitude

   C. Tell the Radar Controller a specific plan of action to take such as "descend AAL211 to FL210" or "turn AAL211 behind UAL414." The plan of action must be feasible.

   D. Getting control of one or more aircraft so the Radar Controller can comply with the student's specific plan of action. The plan of action must be feasible.

2. The goal for the student is the recognition of conflictions followed by the use of some control judgment in order to establish separation. Discussion of better choices should lead to the development of better control judgment.

3. Students must not use other controllers in order to solve conflictions, offload the responsibility for solving them, or to be able to "get the color off the screen" when there is an ample amount of time to deal with them within sector 66. For example:

   A. The student gives the Radar Controller a conditional clearance such as "When in our airspace, descend N123 to flight level 200." This may be appropriate in certain circumstances; however, this must not be a routine way of operating. If so, the student appears to be trying to transfer responsibility to the Radar Controller.

   B. The student gets control when it is either not necessary or when there is ample time to wait for the aircraft to enter sector 66. If this is done, not because the traffic situation requires it, but only in order to be able to suppress the alert, the student is involving other controllers unnecessarily.

   C. The student calls the previous sector and has them move an aircraft. This is appropriate in certain circumstances such as when conflictions occur soon after the aircraft enter the sector. At other times, the student is having another controller do the student's work.

      NOTE: The phrase "soon after the aircraft enters the sector" does not imply that moving the aircraft in the previous sector in these cases is ALWAYS appropriate. Control judgement should be used in every situation to determine the necessity of involving another controller to achieve separation.

   D. None of the above is meant to imply that <u>all</u> conflictions must be solved solely within sector 66 airspace; however, the student must consider other controller's workload and where appropriate, use sector 66 airspace and resources to accomplish normal air traffic control functions.

4. Although a student may request the Radar Controller to issue a clearance that establishes separation from another aircraft or SUA, the student must not suppress the alert or send an amendment until the clearance is actually issued and acknowledged.

SECTION VI – SEPARATION AND ALERTS (CONT'D)

GENERAL (CONT'D)

5. Loss of separation is defined as one or more of the following:

   A. Because of the action/inaction of the student, a legitimate conflict alert is activated.

   B. Because of the action/inaction of the student, a loss of separation or a deviation occurs.

   C. Even though there was no conflict alert, loss of separation, or deviation there was a failure by the student to ever recognize/anticipate the close proximity of (non-vertically separated) aircraft to other aircraft, airspace, or terrain or such recognition/anticipation occurred so late that safety was compromised, questionable, or coincidental.

   D. A departure clearance resulting in a loss of separation is effective upon termination of the call.

6. Seldom will it be appropriate to use the trial plan function to determine a solution to aircraft that are in (legitimate) active conflict alert status. Conflict alert requires a prompt and intelligent response, not a sorting through of all available options.

7. Students are responsible to identify overtake situations that will result in a loss of separation.

8. Students must operate with the certainty that the Radar Controller will safely climb and descend aircraft through the sector without student input (This sentence must not be interpreted as a fail-safe provision for imperfect student input to the Radar Controller).

   Example: If the student tells the Radar Controller to descend an aircraft from FL220 to FL200 without regard for traffic at FL210, the Radar Controller will comply and the student will be charged with the error.

9. Students are responsible for advising the Radar Controller of any formation flight that will enter sector 66 prior to it entering the sector because the separation requirement increases to more than 5 miles.

10. Through 15 reserved.

EDST RED ALERT REQUIREMENTS

16. All red alerts and muted red alerts must be investigated/evaluated by the student. Students must have an understanding of the cause of muted red alerts and be able to explain any situation upon demand. Investigation and suppression of muted red alerts is intended to contribute to the situational awareness of the student.

SECTION VI – SEPARATION AND ALERTS (CONT'D)

EDST RED ALERT REQUIREMENTS (CONT'D)

17. Although communication between the student and Radar Controller is always encouraged, it is not expected that a Radar Controller would inform a student every time he/she stopped an aircraft's climb or descent for conflicting traffic. Radar Controllers must not routinely communicate with students concerning normal and obvious altitude clearances that can be expected to generate muted red alerts.

18. All red (aircraft-to-aircraft) alerts must be investigated using radar and/or the Graphic Plans Display (GPD). A determination must be made as to whether the confliction must be resolved by the student or whether the Radar Controller must be made aware of the confliction. When investigating red alerts, students should ask themselves, "Is this a problem or is it going to become a problem and if so, is it my responsibility to fix it or must I bring it to the attention of the Radar Controller?"

19. With regard to the amount and/or number of aircraft movements, the following applies:

    A. A total altitude change of more than 4000 feet is an error and indicates that a reroute or vector is more appropriate.

    B. Moving an aircraft 4000 feet when 2000 feet was available is an error.

    C. Aircraft rerouted for traffic must be given the first available fix on their route of flight.

    D. An aircraft must not be cleared past the last fix before the start of any star.

    E. A student may climb/descend/reroute an aircraft a total of two times. Pilot requests are excluded from this limit.

       Example: A climb and a reroute or a descent and a descent

    F. Moving an aircraft for no reason is an error.
       Note: A pilot requests or next sector control instructions are exempt from these rules.

20. Through 23 reserved.

EDST YELLOW ALERT REQUIREMENTS

24. The student must investigate each yellow alert and make a determination as to its relevance. For example, although the Radar Controller may discontinue vertical separation after two aircraft have passed each other, their proximity may still cause a yellow alert to be generated. Such an alert is not relevant and must not be communicated to the Radar Controller.

25. Determining relevance and alerting the Radar Controller to a situation require full data blocks for all involved aircraft. Students must bring up full data blocks, if necessary, and make reference to the radar, not the GPD/ACL when communicating with the Radar Controller.

SECTION VI – SEPARATION AND ALERTS (CONT'D)

EDST YELLOW ALERT REQUIREMENTS (CONT'D)

26. A Radar Controller may accept responsibility for aircraft that are in yellow alert and the student may then suppress the alert; however, if a yellow alert, suppressed or not, subsequently turns red, the student must investigate again and treat the red alert as an entirely new event. Previous coordination with the Radar Controller about any yellow alert becomes invalid if the yellow alert turns red.

27. Although yellow aircraft will often remain yellow, their projected routes and proximity may cause the Radar Controller to question whether separation will be maintained. (This is different from relevance.) The Radar Controller must not respond with a blanket "I'll take care of it" to all yellow alert notifications. The Radar Controller must make an assessment of the yellow alert and when necessary, ask the student to accomplish any trial planning and coordination necessary for increasing separation to a comfortable level. Keep in mind that doing this may modify the scenario and may add to the workload of the student.

28. Also, treating <u>all</u> yellow alerts as if they must be resolved instead of being watched is not the intent of this training and greatly increases the workload of the student unnecessarily. A blanket instruction to a student to "resolve" all yellow alerts is inappropriate and such a practice will cost the student points during an evaluation.

29. Through 33 reserved.

EDST ORANGE ALERT REQUIREMENTS

34. The student must investigate each alert and formulate a resolution. A resolution could be an altitude change, a reroute, or a vector. Instructors are expected to help the student learn to make an optimum choice. For example, an altitude change of more than 4000 feet is an error and indicates that a reroute or vector is more appropriate.

35. Through 37 reserved.

SEPARATING DEPARTURES FROM OTHER AIRCRAFT AND AIRSPACE

38. Aircraft departing RWY18 at KGWO which will not immediately turn to a northerly heading (i.e., heading 271 north thru 089) are not in conflict with the CBM3 MOA.

39. Aircraft departing RWY18 at KGWO which are filed via SQS, via SQS..IGB, via SQS..GLH, or direct to points south of V278 may be assigned a minimum altitude of 3,000 feet.

40. The nonradar protected airspace for a departure is a 4 NM arc around the airport and 4 NM either side of the route of flight.

SECTION VI – SEPARATION AND ALERTS (CONT'D)

SEPARATING DEPARTURES FROM OTHER AIRCRAFT AND AIRSPACE (CONT'D)

41. Multiple departures from the same airport must be separated using Non-Radar separation. Multiple departures from different secondary airports, whose lateral airspace overlaps, at any point, must be separated using vertical separation.

42. KVKS and 0M8 departures filed over SQS vs. a KGWO inbound on approach; separation of these aircraft is the responsibility of the R-side.

43. For a KGWO departure vs. a SQS overflight (regardless of how far out) the student must clear the KGWO departure below the overflight.

44. Students are not responsible for the separation of aircraft from overflight traffic once they are climbed above the altitude that the student cleared/released the aircraft to. Therefore, at KVKS and 0M8 students must issue a correct expected altitude ten minutes after departure, even if it conflicts with other traffic. At KGWO students must advise GWO tower if an altitude other than the requested altitude is to be expected.

SECTION VII - TEAM CONCEPT

1. Communication is extremely important to an effective radar team. When not using the communication system to perform other required duties, students are required to monitor frequencies, to actively listen, and to process information and requests.

   A. If the student asks the R-side to repeat/confirm information three or more times during a scenario an error has occurred.

2. Give the student every available chance to catch a mistake. It is up to the Instructor (not the Radar Controller) to decide when to help.

3. Communication between the Radar Controller and the student should be limited to sector operations. Radar Controllers must share control information with students and expect them to share it with you. A Radar Controller that is certified as an instructor may provide instructional input only when asked by the grading Instructor.

4. When providing help to a student, the Instructor should consider the extent of the student's progress through the scenarios. Pausing the problem may be appropriate at any time, especially during scenarios 1-10 when new procedures and tasks are introduced, however students running the last one half to one third of the 11 and 12 scenarios should require decreasing amounts of instruction and should be demonstrating an increasing ability to work on their own with minimum Instructor input. Also at this level, pausing the problem is still appropriate if beneficial, but should be done less frequently.

5. If the student uses the KSD to extend the vector lengths to evaluate a situation, the KSD must be returned to the one minute setting by the student. The student is not allowed to use the KSD range feature; therefore, the R-side will adjust the radar scope range at the student's request.

6. Students must remain aware of those aircraft that require certain control actions, such as complying with LOA provisions, and if necessary, bring them to the attention of the Radar Controller. Subsequent failure of the Radar Controller to comply with those provisions does not indicate an error for the student.

7. Students are expected to maintain situational awareness and identify the required tasks to be performed without prompting prior to:

   A. loss of separation

   B. a deviation

   C. non-compliance with a procedure or LOA

8. Students are required to convey pertinent control and non-control information to the R-side accurately, and in a timely manner. For example:

   A. An aircraft requesting an unrestricted climb prior to the aircraft reporting on frequency.

   B. A reason why an aircraft has been approved to operate at an IAFDOF in sector 66 prior to the boundary.

   C. We need to check the standby transmitter.

SECTION VII - TEAM CONCEPT (CONT'D)

9. Students are required to remain aware of the clock time for scenario events. To relay time related messages, use a calculated clock time. For example: At 1400, a message is received that there will be holding for 45 minutes. This must be recorded on the SIA using the calculated clock time. For example; HOLDING KMLU DISABLED A/C ON RWY/1445 or HOLDING MLU APCH T-STORMS/1445.

10. The Radar Controller must gain the students attention and advise the student of a VFR departure requesting an IFR clearance, if the student fails to enter a departure message the R-side shall enter the departure message.

11. Students can use HALOs during scenarios. The intent is for the students to use the HALO for judging distance, NOT as a reminder tool! Also, the HALO is not to be used by the R-side to bring attention to aircraft. The purpose of this is to give the student a tool to assist them during traffic/point-out decisions. The student may leave the HALO up while making a decision in regard to a single aircraft. The HALO must be removed prior to moving on to another task. If the student fails to remove the HALO, it is an error.

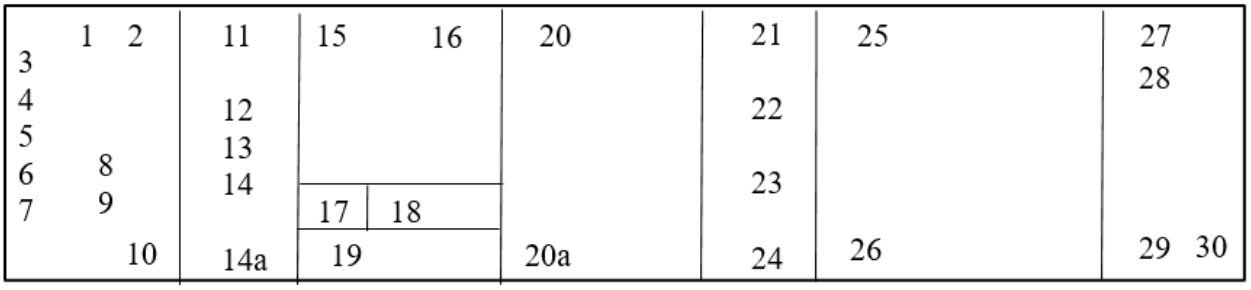
APPENDIX A: RECORDING DATA SUMMARY TABLE

EVENT	HOW TO RECORD
1. expect departure clearance	strip space 14A
2. D-A	strip space 28
3. departure time	strip space 18
4. alternate instructions for departure	strip space 15, 24
5. get control (for an arrival with a posted strip)	strip space 14A
6. block airspace for 0M8 arrival/departure	strip space 26
7. point out for 0M8 departure	ACL
8. cancel block for 0M8 arrival/departure	strip space 26
9. point out for KGWO arrival/SQS holding	ACL
10. Coordination to cancel hold on SQS 256R	verbal only – no record required
11. landing time at KGWO, KVKS, KTVR, 0M8	strip space 18 if space 19 is the airport strip space 22 if space 21 is the airport
12. RADAR contact for departures except KJAN/KMLU	strip space 24
13. vectors for KGWO arrival	strip space 26 by Radar Controller
14. coordination of VA at KGWO	strip space 28
15. cleared approach	strip space 28 by Radar Controller
16. missed approach	strip space 28
17. speed for KJAN arrival if according to LOA	no record required – verbal coordination if other than LOA
18. vector for KJAN/KMLU arrival	no record required
19. point out to ZAE sectors	ACL
20. point out to ZFW or ZHU	ACL
21. point out to ZFW for an aircraft which has entered holding	coordination menu
22. point out to JAN or MLU Approach	coordination menu
23. cancel hold at STUEE	verbal only – no record required
24. NORDO	remarks and verbal coordination
25. (minimum) FUEL	remarks and verbal coordination
26. heading	4th line data (preferred) by Radar Controller or verbal coordination
27. heading/fix	4th line data (preferred) by Radar Controller or verbal coordination
28. speed/mach #	4th line data (preferred) by Radar Controller or verbal coordination
29. weather deviation	4th line data (preferred) by Radar Controller or verbal coordination
30. CELNAV	4th line data (preferred) by Radar Controller or verbal coordination
31. Emergency & E info	strip space 26
32. military change of destination	strip space 26

APPENDIX A: RECORDING DATA SUMMARY TABLE (CONT'D)

33. APREQ climb or descent	verbal coordination with Radar Controller – no record required
34. exception to LOA	coordination menu or flight strip
35. coordination of IAFDOF	ACL
36. got control (for other than item 5)	verbal coordination with Radar Controller – no record required
37. gave control	verbal coordination with Radar Controller – no record required
38. cancel IFR	RS message and strip space 18 if have strip

APPENDIX B: NUMBERED STRIP FOR CLARIFICATION



APPENDIX C: PROMPTS

The Radar Controller is NOT allowed to prompt students in the following situations;

1. An aircraft is entering adjacent airspace without prior coordination. Examples:

   A. Point outs.

   B. Manual Handoffs in conjunction with a known interface failure.

   C. APREQs.

2. An aircraft is **NOT** in compliance with Letters of Agreement or procedures.

3. Aircraft entering sector 66 at, requesting, or transitioning to FL180 when altimeters are below 29.92.

4. Getting control of an aircraft (landing 0M8 etc…).

5. R-sides must not bring attention to any aircraft on the scope to indicate a task is pending. Do not use halos, pointing at the scope, the Draw feature, etc. as silent prompts.

The Radar Controller is expected to communicate with students in the following situations;

1. Common information at the sector. Examples:

   A. An aircraft has departed a secondary airport (e.g. KVKS, 0M8, etc.).

   B. Information the student did not hear over the frequency, e.g. R-side relays details of an aircraft emergency. Students must be given a chance to respond to an aircraft request.

   C. The student initiates the conversation.

   D. Manual Handoffs in conjunction with an unknown interface failure.