[CPG-564] (U) The CPG **shall** enable the operator to display trails for all tracks and/or a subset of tracks using the selected trail length.

[CPG-565] (U) The CPG **shall** enable the operator to select a trail display length for all tracks of up to b(3) [redacted]

[CPG-566] (U) The CPG **shall** enable the operator to display b(3) [redacted] of a track's path.

[CPG-567] (U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include source track number mappings of correlated tracks.

[CPG-2645] (U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track identification and supporting data, including recommended ID.

[CPG-2644] (U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track category, specific type, and platform type as well as supporting data.

[CPG-2498] (U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include contributing sources to CEC tracks.

[CPG-2499] (U) The CPG **shall** enable the operator to view current track amplification data on a selected track which is determined by threat priority data, including threatened asset and time to asset.

[CPG-573] (U) The CPG **shall** enable the operator to query selectable display objects for attribute data.

[CPG-574] (U) The CPG **shall** have a measurement reference (e.g., range rings, ruler, grid toggle) for items on the situational display.

[CPG-575] (U) The CPG **shall** enable the operator to initiate a pointer exchange, including text, with external systems on Link-16/JRE.

[CPG-576] (U) The CPG **shall** enable the operator to display and clear pointers received from external systems on Link-16/JRE.

[CPG-577] The CPG **shall** provide an interface to allow the operator to selectively display:

a. (U) radiation control sectors with corresponding radiation state,

b. (U) radar field of view,

c. (U) search regions of interest,

d. (U) supported weapon systems engagement coverage,

e. (U) initialization data, and

f. (U) system status information.

[CPG-582] (U) The CPG **shall** enable the operator to display the relative track priority list.

[CPG-583] (U) The FCS CPG **shall** enable the operator to display an indication on the tracks for which engagement support is being provided by the FCR.

[CPG-584] (U) The FCS CPG **shall** alert the operator when high priority tracks or tracks under engagement support will potentially exit the FCR track coverage.

[CPG-585] (U) The FCS CPG **shall** display a list of currently supported engagements with engagement support plan data upon operator command.

[CPG-2451] (U) The FCS CPG **shall** display and update the projected target flight path for the engagement timeline for targets that are planned for engagement support and targets that a supported engagement is ongoing.

[CPG-586] (U) The FCS CPG **shall** provide the interface to allow the operator to designate a target for acquisition by the FCR.

[CPG-587] (U) The CPG **shall** enable the operator to designate tracks to be dropped by the associated radar.

3.2.1.12 (U) Shadow/Investigate/Precision Cue Commands

(U) The CPG associated with an FCS can support general air defense operations by responding to commands from the Higher Echelon Unit Engagement Operations (HEU(EO)) for placing a specific situation awareness track under precision tracking by the FCR. The HEU(EO) can also affect FCS resource allocation by commanding that specific precision tracks be terminated.

[CPG-2674] (U) Upon receipt of an Investigate, Shadow, and/or Precision Cue command from Link-16/JRE HEU(EO) for a track within the FOV of the radar, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the command is not associated with a local track.

[CPG-617] (U) The FCS CPG **shall** reject Shadow commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies:

a. (U) radar is not in the tactical state

b. (U) track in the command is not held in the system track database

c. (U) track in the command is outside the radar FOV

d. (U) track in the command is within the radar FOV but cannot be acquired b(3) [redacted]

e. (U) track in the command is a ground or surface track.

[CPG-2677] (U) The FCS CPG **shall** allow the operator to accept or reject a Shadow, Investigate and/or Precision Cue command if the following apply:

a. (U) the command was not automatically rejected b(3) [redacted]

b. (U) auto accept is disabled.

[CPG-2676] (U) The FCS CPG **shall** automatically accept Shadow, Investigate, and/or Precision Cue commands if the following apply:

a. (U) the command was not automatically rejected b(3) [redacted]

b. (U) auto accept is enabled.

[CPG-2675] (U) The FCS CPG **shall** reject Investigate commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies:

a. (U) radar is not in the tactical state

b. (U) track in the command is not held in the system track database

c. (U) track in the command is outside the radar FOV

d. (U) track in the command is within the radar FOV but cannot be acquired b(3) [redacted]

e. (U) track in the command is a ground or surface track

f. (U) radar resources are fully utilized with tasks of higher priority.

[CPG-622] (U) The FCS CPG **shall** allow the operator to enable/disable the automatic acceptance of Link-16/JRE HEU(EO) Shadow, Investigate, and/or Precision Cue commands.

[CPG-623] (U) The FCS CPG **shall** indicate to the operator if the Link-16/JRE HEU(EO) Shadow or Investigate command is for a track that is outside the current field of view of the FCR. The operator has the responsibility to request FCR pointing adjustments.

[CPG-624] (U) Upon acceptance of the Shadow command, the FCS CPG **shall** perform the following:

a. (U) report acceptance of the command to the Link-16/JRE HEU(EO), and

b. (U) set the track priority within the CPG Designated priority level.

[CPG-628] (U) The CPG **shall** alert the operator if the Shadow, Investigate, and/or Precision Cue command was automatically rejected.

[CPG-629] (U) Upon acceptance of the Investigate command, the FCS CPG **shall** perform the following:

a. (U) report acceptance of the command to the Link-16/JRE HEU(EO),

b. (U) set the track priority in the CPG-Designated priority level,

c. (U) command FCR to b(3) track, and

d. (U) command IFF interrogation on the track.

[CPG-2483] (U) Upon acceptance of a Cease Engage command, for a Shadow and/or Investigate function, the FCS CPG **shall** perform the following:

a. (U) cancel b(3) with the radar,

b. (U) modify the track priority based on the prioritization logic, and

c. (U) re-order the CPG b(3) queues.

[CPG-635] (U) Upon rejection of a command from Link-16/JRE HEU(EO), the FCS CPG **shall** report that it Cannot Comply to the Link-16/JRE HEU(EO).

[CPG-2673] (U) Upon acceptance of a Precision Cue command, the FCS CPG **shall** perform the following:

a. (U) report acceptance of the command to Link-16

b. (U) set the track priority to Precision Cue within CPG Designated priority level.

[CPG-2672] (U) The FCS CPG **shall** automatically reject Precision Cue commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies:

a. (U) radar is not in the tactical state

b. (U) track in the command is not held in the system track database

c. (U) track in the command is outside the radar FOV

d. (U) track in the command is within the radar FOV but cannot be acquired b(3)

e. (U) track in the command is a ground or surface track

f. b(3)

g. b(3)

3.2.1.13 (U) Engagement Management

3.2.1.13.1 (U) Request for Support

[CPG-590] (U) The FCS CPG **shall** provide engagement support coordination between external weapons systems and the FCR to include assessments of weapon system requests; assessment of radar and communication resources; accounting for track priorities; and responding to the weapon system.

[CPG-2404] (U) The CPG **shall** have an engagement support interface b(3) Note: The interface is specified in Appendix B.

[CPG-591] (U) The CPG **shall** have an engagement support interface to CEC defined in accordance with Reference [31].

[CPG-592] (U) The CPG **shall** determine whether it can support the requested engagement b(3)

[CPG-2655] (U) Upon receipt of a request for engagement support, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the request is not maintained in the local track database and if the track is in the field of view of the FCR.

[CPG-593] (U) If the cued acquisition of a non-locally held track does not result in a local track within the time period, in accordance with Reference [2a], the FCS CPG **shall** reject the engagement support request.

[CPG-594] (U) The FCS CPG **shall** automatically determine the ability to support individual engagements based on received engagement support requests. The ability to support engagements considers the following for the engagement timeline identified:

a. (U) the track will remain in FCR coverage

b. b(3)

c. (U) the accuracy of the track is sufficient for the weapon system request

d. b(3)

[CPG-599] (U) Once the ability to support an engagement has been established, the FCS CPG **shall** automatically accept the request.

[CPG-600] (U) The FCS CPG **shall** alert the operator and reject an engagement support request if the request cannot be supported by the FCR or communication resources and the requested track is of equal or lower priority than currently scheduled engagements.

[CPG-2599] (U) The FCS CPG **shall** prioritize on-going engagements over future scheduled engagements. On-going engagements will not be pre-empted unless otherwise directed.

[CPG-601] (U) The FCS CPG **shall** provide an engagement support recommendation and alternatives when an engagement support request cannot be supported by the FCR or communication resources.

(U) The FCS CPG engagement support recommendations and alternatives identify the potential for the following:

a. (U) Preemption of scheduled engagements including the impacts on the engagements, radar resources, and/or communication resources

b. (U) Modification of engagement request parameters to allow a degraded offer

c. (U) Rejection of the request

[CPG-608] (U) The FCS CPG **shall** provide b(3) for the operator to select from the engagement support recommendation and the alternatives.

[CPG-609] (U) The FCS CPG **shall** perform the tasks corresponding to the operator accepted course of action or the timed out recommendation, whichever occurs first.

[CPG-610] (U) The FCS CPG **shall** initiate a termination of engagement support for currently supported lower priority targets that were pre-empted by the acceptance of a higher-priority engagement.

[CPG-611] (U) The FCS CPG **shall** send an acceptance offer b(3) for engagement support requests b(3) that the FCS will support. The acceptance offer will include the timeline that will be supported by the FCS.

3.2.1.13.2 (U) Engagement Support

[CPG-637] (U) The CPG **shall** build an Engagement Support Plan for a received acceptance from a weapon system of an engagement support offer to include the following:

a. (U) projected interceptor launch time

b. (U) target track number

c. (U) data rates needed

d. (U) time changes for data rates

e. (U) acquisition and track of interceptor required

[CPG-643] (U) The FCS CPG **shall** perform multiple simultaneous Engagement Support Plans b(3)

[CPG-644] (U) The CPG **shall** task the FCR to support each engagement according to the Engagement Support Plan.

[CPG-646] (U) The CPG **shall** initiate an FCR cued acquisition of the interceptor using received state vectors in accordance with the Engagement Support Plan. The Engagement Support Plan includes whether or not interceptor tracking is necessary.

[CPG-649] (U) The CPG **shall** transmit target information to the network according to the Engagement Support Plan.

[CPG-650] (U) The CPG **shall** provide interceptor track data to the engaging weapons system according to the Engagement Support Plan.

3.2.1.13.3 (U) Terminate Engagement Support

[CPG-2657] (U) The CPG **shall** automatically terminate engagement support

a. (U) upon end of contract with the weapon system,

b. (U) upon weapon system notification to terminate contract, or

c. (U) of the lowest priority scheduled, but not on-going engagement, upon acceptance of an on-going engagement contract extension. b(3)

[CPG-652] (U) The CPG **shall** allow the operator to select an engagement and manually terminate support for the engagement.

[CPG-653] (U) The CPG **shall** command the radar to pre-engagement priority and cancel b(3) actions on a track due to the termination of engagement support of a target.

[CPG-654] (U) The CPG **shall** notify supported weapons systems when it must terminate engagement support.

[CPG-2658] (U) The CPG **shall** notify the operator upon termination of engagement support.

(U) The CPG ceases engagement support via removing engagement priority from a track under weapon system direction.

3.2.1.14 (U) Operational Health and Operating Condition Monitoring

[CPG-656] (U) The CPG **shall** provide the functionality to allow at least three operators to simultaneously display and control the content detail level of the operational health status and operating condition information.

[CPG-657] (U) The CPG **shall** collect, assess, and display operational health as reported by the associated Platform and the associated radar.

[CPG-658] (U) The CPG **shall** collect, assess, and display operational health for the CPG to include the following:

a. (U) processors

b. (U) consoles

c. (U) local area network backbone and routers

d. (U) storage media

e. (U) data communications radios

f. (U) peripherals

[CPG-665] (U) The CPG **shall** collect, assess, and display summary-level operational health and operating condition for the System and associated prime items.

[CPG-666] (U) The CPG assessment of operational health **shall** result in one of the following determinations:

a. (U) Item is Off or has been disabled,

b. (U) No statement due to incomplete or invalid information,

c. (U) Item is on and fully Operational,

d. (U) Item is on and is Degraded due to loss of capabilities, but can support mission or

e. (U) Item is Failed and cannot support the mission.

(U) Note: Items include ABCS, MIDS, CEC B3 MBMMRs, HF radio, the associated radar, and the associated platform.

[CPG-672] (U) The CPG assessments of operating condition **shall** result in one of the following determinations:

a. (U) Item is Off or has been disabled,

b. (U) Item is Initializing,

c. (U) Item has been initialized and is Configuring,

d. (U) Item has been configured and in Standby-Ready (i.e., Configuration Mode), but is Ready to become operational (Standby-Ready), or

e. (U) Item has been commanded into Operation (i.e., Tactical Mode) and is executing the mission.

(U) Note: Items include MIDS, CEC B3 MBMMRs, HF radio, the associated radar, and the associated platform.

[CPG-678] (U) The CPG **shall** collect and display the applicable system external data link status for the following data links:

a. (U) Link-16

b. (U) JRE

c. (U) CEC

d. (U) IBS

e. (U) HE(FO) b(3)

f. (U) GPS

[CPG-685] (U) The CPG **shall** collect and display the applicable CPG internal link status of Off, Active, Degraded, or Failed for the following links:

a. (U) MIDS LVT-2 in the CP

b. (U) MBMMR Serial Link for JRE

c. (U) CEP

d. b(3)

e. (U) LAN GPS

f. (U) SIPRNET

g. (U) NIPRNET

[CPG-691] (U) The CPG **shall** collect and display the CPG data link status of Off, Active, or Failed for the following data links:

a. (U) Associated Radar SDP

b. (U) MMS/Aerostat/Flight Director (FD)

c. (U) Power Conversion and Distribution System (PCDS)

[CPG-696] (U) The CPG **shall** alert the operator to a change in the operational health and operating condition of the System and Prime Items.

[CPG-697] (U) The CPG **shall** alert the operator to changes in internal and external link status.

[CPG-698] (U) The CPG **shall** report the operational health and operating condition of the System to ABCS in accordance with Reference [1].

[CPG-2490] (U) The CPG **shall** report the operational health and operating condition of the System to Link-16 in accordance with Reference [1].

[CPG-2491] (U) The CPG **shall** report the operational health and operating condition of the System to JRE in accordance with Reference [1].

[CPG-2492] (U) The CPG **shall** report the operational health and operating condition of the System to CEP in accordance with Reference [1].

[CPG-2670] (U) The CPG **shall** report the operational health and operating condition of the System to IBS in accordance with Reference [1].

[CPG-2685] (U) The CPG **shall** enable the operator to access radar system hardware configuration data.

3.2.1.15 (U) Data Recording

[CPG-700] (U) The CPG **shall** automatically record, b(3) a set of data to include the following:

a. (U) system operational health and operational condition

b. (U) track data including supporting data for measurements, covariance, category, platform, specific type, and identification

c. (U) engagement support actions

d. (U) operator interventions and commands

e. (U) enacted Mission Plans

f. (U) enacted Mission Profiles

g. (U) IFF responses with position

h. (U) CPG operational health data and faults detected

i. (U) messages to and from the associated radar

j. (U) messages to and from the associated platform

k. (U) security and authentication logs

l. (U) prognostics reports

(U) Note: These items cannot be disabled by the operator.

[CPG-2681] (U) The CPG **shall** automatically record a set of data to include the following:

a. (U) initialization parameters

b. (U) changed parameters

c. (U) operator interventions and commands

d. (U) external link message traffic for Link-16, and CEC

e. (U) track data including supporting data for measurements, covariance, category, platform, specific type, and identification

f. (U) status

g. (U) CID-related products (received from the radar)

h. (U) organic weather data

(U) Note: These items cannot be disabled by the operator.

[CPG-2396] (U) The CPG **shall** automatically record b(3) the weather data from the local Platform weather equipment.

[CPG-716] (U) The CPG **shall** display an alert when CPG data recording media changes are needed.

[CPG-2473] (U) The CPG **shall** display an alert when radar data recording media changes are needed.

[CPG-717] (U) The CPG **shall** display an alert if CPG data recording stops or is not running.

[CPG-2474] (U) The CPG **shall** display an alert if radar data recording stops or is not running.

[CPG-2471] (U) The CPG **shall** have controls for CPG data recording functions.

[CPG-2472] (U) The CPG **shall** have controls for radar data recording functions.

[CPG-718] (U) The CPG **shall** enable the operator to select from the following additional data recording items:

a. (U) external link message traffic for HE(FO)

b. (U) external link message traffic for IBS.

[CPG-727] (U) The CPG **shall** time stamp data as it is being recorded.

[CPG-728] (U) The CPG **shall** store classified and unclassified data on independent systems.

[CPG-2412] (U) The CPG **shall** provide selective data retrieval, report formatting, and report generation via an interactive operator interface.

[CPG-2413] (U) The CPG **shall** provide recorded data archival via an interactive operator interface for post mission analysis.

[CPG-2612] (U) The CPG **shall** store the faults detected either in non-volatile memory or on removable data storage media.

[CPG-2611] (U) The CPG **shall** continuously record:

a. (U) intercom communications,

b. (U) tactical voice communications, and

c. (U) CCS voice communications

b(3)

[CPG-2610] (U) The CPG **shall** provide a selective voice playback capability through operator workstations.

[CPG-2660] (U) The CPG **shall** allow a qualified operator to:

a. (U) select the recorded voice communications to archive

b. (U) select the recorded voice communications to playback.

[CPG-2659] (U) The CPG **shall** selectively archive b(3) of recorded voice communications to removable media.

3.2.1.16 (U) Training

3.2.1.16.1 (U) General Training

[CPG-732] (U) The CPG **shall** enable the operator to transition between tactical operations and training operations.

[CPG-733] (U) The CPG **shall** enable the operator to select the following training modes:

a. (U) **Standalone** - one or more operators participating in a simulated exercise

b. (U) **Netted** - system participating in a simulated exercise within an orbit and/or with external systems b(3)

c. (U) **Individual** - operator-interactive tutorial modules.

[CPG-734] (U) The CPG **shall** provide embedded standalone and netted proficiency training for operator tasks utilizing simulated tracks.

[CPG-735] (U) The CPG **shall** generate simulated track inputs, consistent with the selected radar type, upon operator request.

[CPG-736] (U) The CPG training simulations and simulators **shall** be Distributed Interactive Simulation (DIS)/High Level Architecture (HLA) compliant.

[CPG-737] (U) The CPG **shall** provide the functionality to allow the operator to implement communication controls for the DIS/HLA interface as an alternate source of simulated truth tracks for the radar models.

[CPG-739] (U) The CPG embedded training **shall** operate on the tactical hardware and operate with the tactical software.

[CPG-740] (U) The CPG **shall** provide hardware and an internet browser to access government Web-based training sites.

[CPG-741] (U) The CPG **shall** have embedded trainers and simulators which are written in a standard language and have a modular design in order to allow for hardware and software growth potential.

[CPG-2477] (U) The CPG Embedded Trainer processing resources **shall** be isolated from tactical operational software.

[CPG-742] (U) The CPG **shall** enable the operator to access installed interactive electronic technical manuals (IETMs).

[CPG-2397] (U) The CPG **shall** enable the operator to access installed computer based training (CBT).

[CPG-2678] (U) The CPG **shall** enable the operator to exit Embedded Training operations and switch to live operations with a single action.

[CPG-2683] (U) The CPG **shall,** under operator control, record mission operator GUI actions during embedded tactical training sessions.

[CPG-2682] (U) The CPG **shall,** under operator control, provide playback of recorded embedded tactical training sessions.

3.2.1.16.2 (U) Standalone Training

[CPG-744] (U) The CPG **shall** continue tactical operations while allowing one or more operators to participate in sim-over-live standalone training.

[CPG-745] (U) The CPG **shall** suppress transmission of simulated tracks on external networks that were generated by standalone training.

[CPG-746] (U) The CPG embedded training **shall** have simulated problem situations that replicate those expected to be encountered in actual mission operations.

[CPG-2679] (U) In the standalone sim-over-live mode, CPG **shall**

a. (U) enable each operator to select whether to interact with the live or simulated radar (Note: The simulated radar uses the same mission profile as the live radar. A mission profile is controlled by the live radar.)

b. (U) enable each operator to select to view sim-only, live only, or both sim and live data,

c. (U) ensure that at least one operator select live only or sim and live data,

d. (U) from the operators who satisfy (c), ensure that at least one operator select to interact with the live radar,

e. (U) if no operator selects the simulated radar, the simulated radar is slaved to the live radar

f. (U) prevent an operator viewing sim-only to interact with live comms or the live radar, and

f. (U) provide an indication of the radar type with which the operator is interacting.

3.2.1.16.3 (U) Netted Training

[CPG-748] (U) The CPG **shall** provide netted training that interacts within the orbit and/or with external systems based on a coordinated scenario.

[CPG-749] (U) The CPG **shall** exchange simulated tracks on networks, internal or external, designated to participate in the netted exercise.

[CPG-750] (U) The CPG **shall** be interoperable through the Joint Semi-Automated Forces (JSAF) architecture by transmitting and receiving DIS and HLA formatted data to link the live, virtual, and constructive pieces of the training arena.

[CPG-2662] (U) The CPG **shall** support sim-only and sim-over- live training exercises while in netted training.

3.2.1.16.4 (U) Training Scenarios

[CPG-752] (U) The CPG **shall** enable the operator to create, edit, save, and retrieve training scenarios.

[CPG-2642] (U) The CPG **shall** have storage and access for not less than 20 training scenarios.

[CPG-753] (U) The CPG **shall** enable the operator or maintainer to select, initiate, and stop training sessions.

3.2.1.17 (U) Common Planning and Situational Display Characteristics

[CPG-755] (U) Newly developed software for any CPG subsystem **shall** use track symbology consistent with Reference [12] and all other symbology consistent with Reference [11].

[CPG-756] (U) The CPG **shall** adjust Reference [11] symbol size (i.e., display objects) to account for zooming.

[CPG-757] b(3)

a. b(3)

b. b(3)

c. b(3)

[CPG-761] (U) The CPG **shall** provide a GUI containing a classified reserved alert display area at each operator position.

[CPG-762] (U) The CPG **shall** use the guidance of Reference [10], section titled *Audio Displays* for production of audio signals. The audio signals are to direct the user's attention to the appropriate visual display which warns personnel of impending danger, alerts personnel to a critical change in system or equipment status, and/or reminds personnel of a critical action or actions that must be taken.

[CPG-763] (U) The CPG software **shall** provide safety critical alerts that are distinct from routine alerts.

[CPG-764] (U) The CPG **shall** display a hazardous condition alert until acknowledged by the operator or until the hazardous condition has been terminated. Hazardous conditions may be reported by the CPG or other Prime Items.

[CPG-765] (U) The CPG **shall** alert the operator to the receipt of the following warning messages from HE(FO) or HEU(EO):

a. (U) Air Defense Warning

b. (U) NBC Warning

c. (U) TBM Warning

d. (U) Threat Warning Message

[CPG-770] (U) The CPG **shall** enable the operator to selectively display the following overlay items:

a. (U) Primary Threat Line (PTL)

b. (U) Defended Assets

c. (U) Air defense resources

d. (U) Prohibited and Restricted Volumes

e. (U) Safe Passage Corridors

f. (U) Friendly and Hostile Origins

g. (U) Weapon Control Volumes

h. (U) General Lines and Points

[CPG-779] (U) The CPG **shall** include operator controls which allow displaying tracks b(3) [redacted]

3.2.1.18 (U) System Infrastructure and Administrative Functions

[CPG-781] (U) The CPG **shall** perform consistency checking of the mission planning and mission profile data entered by the operator. Note: Consistency checking validates the mission planning and mission profile data are consistent with prescribed directives.

3.2.1.18.1 (U) Email and Web Browsing

[CPG-783] (U) The CPG **shall** enable the operator to compose, send, receive, review and save computer assisted electronic text-formatted messages on the classified and unclassified networks.

[CPG-2663] (U) The CPG **shall** support tactical chat capability b(3) [redacted]

[CPG-784] (U) The CPG **shall** provide browsing capability on NIPRNET b(3) [redacted]

3.2.1.18.2 (U) CPG LAN Management

[CPG-786] (U) The CPG **shall** configure the Black LAN upon operator request.

[CPG-787] (U) The CPG **shall** configure the Red LAN upon operator request.

3.2.1.18.3 (U) System Administration

[CPG-789] (U) The CPG **shall** display user information to the system administrator.

[CPG-790] (U) The CPG **shall** provide the capability to assign operator workstation functions automatically based on the user profile.

[CPG-791] (U) The CPG **shall** enable the system administrator to perform network diagnostics.

[CPG-792] (U) The CPG **shall** enable the system administrator to add, configure, and delete software.

[CPG-793] (U) The CPG **shall** enable the system administrator to monitor computer performance.

[CPG-794] (U) The CPG **shall** enable the system administrator to backup and restore files.

[CPG-795] (U) The CPG **shall** enable the system administrator to add and delete system users.

[CPG-796] (U) The CPG **shall** enable the system administrator to configure user accounts to include access privileges and roles.

3.2.1.18.4 (U) System Time and Position

[CPG-798] (U) The CPG **shall** synchronize to b(3)

[CPG-799] (U) The CPG **shall** provide the time synchronization to communications equipment and processing resources in accordance with Reference [1].

[CPG-800] (U) The CPG **shall** enable the operator to enter location and time. b(3)

[CPG-801] (U) The CPG **shall** set CPG location coordinate data from GPS.

[CPG-802] (U) The CPG GPS **shall** include b(3) GPS.

3.2.1.18.5 (U) File and Media Administration

[CPG-805] (U) The CPG **shall** enable the operator to archive and retrieve computer assisted electronic messages, electronic mail, authentication and security logs, and local files in non-volatile memory or on removable data storage media.

[CPG-806] (U) The CPG **shall** retain a log of archive actions.

3.2.1.18.6 (U) Terrain Products

[CPG-808] b(3)

a. b(3)

b. b(3)

c. b(3)

3.2.2 (U) Interfaces

3.2.2.1 (U) Internal Interface Requirements

[CPG-815] (U) The CPG software subsystems **shall** exchange data as defined by Reference [14].

[CPG-2686] b(3)

3.2.2.2 (U) External Interface Requirements

[CPG-817] (U) The CPG **shall** have a physical interface with the Platform in accordance with Reference [1].

[CPG-2582] (U) The CPG **shall** exchange data with the Platform in accordance with Reference [1].

[CPG-818] (U) The SuS CPG **shall** have a physical interface with the SuR in accordance with Reference [1].

[CPG-2583] (U) The SuS CPG **shall** exchange data with the SuR in accordance with Reference [1].

[CPG-819] (U) The FCS CPG **shall** have a physical interface with the FCR in accordance with Reference [1].

[CPG-2584] (U) The FCS CPG **shall** exchange data with the FCR in accordance with Reference [1].

[CPG-820] (U) The CPG **shall** exchange Link-16 messages in accordance with Reference [1]. Reference [2], Appendix W provides details on the Link-16 Minimum Implementation via an LVT-2 MIDS. The Minimum Implementation applies to PPLI, System Information Exchange and Network Management, Air Surveillance, Surface Surveillance, Land Surveillance, Space Surveillance, and Weapons Coordination and Management functions.

[CPG-821] (U) The CPG **shall** interface with its HEU(EO) through JRE or Link-16 as designated for the mission.

[CPG-822] (U) The CPG **shall** exchange JREAP messages in accordance with Reference [1]. Reference [2], Appendix W; and Reference [3], Appendices A and C provide detail on the Minimum Implementation that applies to PPLI, System Information Exchange and Network Management, Air Surveillance, Surface Surveillance, Land Surveillance, Space Surveillance, and Weapons Coordination and Management functions.

[CPG-823] (U) The CPG **shall** direct JREAP messages to the shelter port or the on-board Multi-Band Multi-Mode Radio (MBMMR) PSC-5D.

[CPG-824] (U) The CPG **shall** maintain communications with the Army Battle Command System (ABCS) via an interface to the b(3) located at ABCS entry point and b(3) hosted at the CPG.

[CPG-825] (U) The CPG **shall** exchange USMTF messages in accordance with Reference [1]. Reference [13] provides detail on exchange of USMTF for Higher Echelon Force Operations (HE(FO)) communications.

[CPG-826] (U) The CPG **shall** at a minimum use the Integrated Air and Missile Defense (IAMD) XML Schema, Version 1.3 for local b(3) HE(FO) b(3) communication.

[CPG-827] (U) The CPG **shall** host a Cooperative Engagement Processor (CEP) to interface to the CEC.

[CPG-828] (U) The CPG **shall** exchange data in CMF in accordance with Reference [1]. Reference [4] provides detail on communication over IBS via the b(3)

[CPG-829] (U) The CPG **shall** access time and position data from the Space Segement (SS) of the Global Positioning System (GPS) in accordance with Reference [1].

[CPG-830] (U) The CPG **shall** participate as a non-forwarding unit on CEC, Link-16, JRE, IBS, and ABCS simultaneously. A non-forwarding unit is one that only provides locally developed status and tracks that are maintained by the associated radar. Data from one data link is not directly transferred to the other data links.

[CPG-831] (U) The CPG **shall** have connectivity for Secure Internet Protocol Router Network (SIPRNET) access.

[CPG-832] (U) The CPG **shall** have connectivity for Defense Information Systems Network (DISN) Non-Classified Internet Protocol Router Network (NIPRNET) access.

[CPG-833] (U) The CPG shelter **shall** have Internet Protocol (IP) connectivity for JREAP, USMTF/XML, SIPRNET Applications, and NIPRNET Applications to support external connections to mission-supplied MILSATCOM and/or terrestrial communications. MILSATCOM includes Ultra High Frequency (UHF), Super High Frequency (SHF), and Extreme High Frequency (EHF) communications. Terrestrial communications include Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) and landlines.

[CPG-834] (U) The CPG **shall** have no fewer than eight (8) IP connections to support:

a. (U) DIS/HLA in accordance with Reference [1]

b. (U) Red LAN access

c. (U) Black LAN access

3.2.2.3 (U) Voice Communications

[CPG-839] (U) The CPG **shall** provide tactical and non-tactical voice communications interfaces to the Defense Switched Network (DSN), the Public Switched Telephone Network (PSTN), and the Integrated Services Digital Network (ISDN) in accordance with Reference [1].

[CPG-840] (U) The CPG **shall** provide secure non-tactical voice communications over commercial networks.

[CPG-841] (U) The CPG **shall** have a UHF SATCOM interface for voice communications.

[CPG-842] (U) The CPG **shall** have voice communications systems that interface to military tactical telephone systems including Secure Telephone Units (STUs) or Secure Terminal Equipment (STE).

[CPG-843] (U) The CPG **shall** enable internal and external tactical voice communications via the following:

a. VHF Combat Net Radio (using SINCGARS waveform)

b. Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1)

c. SATCOM terminal

d. HF radio

e. UHF radio

[CPG-849] (U) The CPG UHF radios **shall** have HAVEQUICK [redacted] **b(3)** capability.

[CPG-851] (U) The CPG **shall** enable the operator to monitor simultaneously two voice communication networks.

[CPG-852] (U) The CPG **shall** enable each operator to access and control voice communications at the operator position.

[CPG-853] (U) The CPG **shall** provide two-way voice communication between the CPG shelters, the Platform Mobile Mooring Station (MMS), and the Deployable Power Generation and Distribution System (DPGDS).

3.2.3 (U) Physical Characteristics

3.2.3.1 (U) Weight

[CPG-856] (U) Each CPG shelter configured for movement **shall** weigh no more than 22,000 pounds.

[CPG-857] (U) The CPG airborne equipment **shall** weigh no more than 1100 pounds packaged in two or more subsystems that can be distributed to allow for aerostat stability.

3.2.3.2 (U) Power

[CPG-859] (U) The CPG **shall** have a power interface(s) with the radar ground equipment in accordance with Reference [1].

[CPG-860] (U) The CPG **shall** provide physical space and power distribution for all internally housed equipment that are not part of the CPG Prime Item.

[CPG-861] (U) The CPG **shall** provide required prime power to the interfacing components external to the shelter.

[CPG-862] (U) The CPG **shall** [redacted] **b(3)** to power all of the equipment permanently or temporarily installed within the shelters.

[CPG-863] (U) The CPG **shall** include Uninterruptible Power Sources (UPSs) to support orderly shutdown in the event that power is lost, so ground based processors can be restarted, preserving the integrity of the database.

[CPG-864] (U) The CPG main power **shall** be switched by the CCS, DPS, and SPS main power switches.

[CPG-865] (U) The CPG **shall** operate through minor power fluctuations within the design limits of the associated JLENS power supply specifications. i.e., Prevent inadvertent archiving or shutdown procedures.

[CPG-866] b(3) [redacted]

3.2.3.3 (U) Shelters

[CPG-868] (U) The CPG shelters **shall** use 8' or 8.5' height, 8' width, and 20' length ISO containers.

[CPG-2604] (U) The CPG, while in the Transport Mode, except for CPG ISO containers or shelters which are greater than 8' by 8' by 20' in any dimension, b(3) [redacted]. ISO containers which differ from 8' x 8' x 20' Non-Expandable ISO Standard shelters or spare ISOs, require approval by the JLENS Government Product Manager

[CPG-869] (U) The CPG shelters **shall** house the operator stations, signal data processors, and communications equipment.

[CPG-870] (U) The CPG **shall** have emergency indications and related controls using the guidance of Reference [10], section titled Emergency Use.

[CPG-871] (U) The CPG **shall** have adjustable, ambient lighting with controls at the entrance to the shelters. Illumination is further described in Reference [22] and Reference [10], section titled *Illuminance.*

[CPG-872] (U) The CPG **shall** have spacing of connectors and controls external to the shelters that is compatible with operation in cold weather/Mission Oriented Protective Posture (MOPP) IV protective clothing as specified in Reference [10], section titled *Spacing.*

[CPG-873] b(3) [redacted]

[CPG-874] (U) The CPG **shall** have interchangeable Line Replaceable Units (LRUs) as specified in Reference [10], section titled Design for Maintainability.

[CPG-875] (U) The CPG **shall** have signal entrance panel(s) at the shelter exterior to interface with tactical, non-tactical, and commercial telephone systems.

[CPG-876] (U) The CPG **shall** host the Flight Director SW.

[CPG-877] (U) The CPG **shall** host the Weather Instrumentation Subsystem SW.

[CPG-878] b(3) [redacted]

[CPG-879] (U) The CPG **shall** provide classified print capability.

[CPG-880] (U) The CPG **shall** provide unclassified print capability.

[CPG-881] (U) The CPG **shall** provide non-secure facsimile capability.

[CPG-882] (U) The CPG **shall** provide secure facsimile capability.

3.2.3.4 (U) Environmental Controls

[CPG-884] (U) The CPG **shall** display the temperature within all CPG shelters.

[CPG-885] (U) The CPG **shall** provide occupant control of the temperature within the CPG shelters.

3.2.3.5 (U) Non-CPG Equipment

[CPG-887] (U) The CPG **shall** provide a protected environment for all internally housed equipment that is not part of the CPG Prime Item.

3.2.4 (U) Subsystem Quality Factors

3.2.4.1 (U) Reliability

[CPG-897] b(3)

[CPG-898] b(3)

[CPG-899] (U) The CPG airborne equipment **shall** operate not less than 30 days without scheduled maintenance.

3.2.4.2 (U) Maintenance Control

[CPG-901] (U) The CPG **shall** enable the maintainer, through an integrated central control, to:

a. (U) access maintenance information to include error detection, fault isolation, prime item operational health and diagnostics, CPG-level repair, logging, and prognostics

b. (U) conduct maintenance actions to include diagnostics, b(3), initiate a repair action, initiate failover/recovery

c. (U) access and display IETM material relevant to the component being assessed or selected maintenance action.

[CPG-905] (U) The CPG **shall** maintain and record logs for maintenance events to include:

a. b(3)

b. (U) fault detections

c. (U) fault isolation actions

d. (U) repair actions taken and information

e. (U) system operational health

[CPG-911] (U) The CPG **shall** detect all mission critical failures using a combination of b(3) b(3)

[CPG-912] (U) The CPG **shall** enable the operator to access the system failover/recovery capabilities necessary to support mission critical functions.

[CPG-913] (U) The CPG **shall** enable the operator to access and initiate radar maintenance functions.

[CPG-914] (U) The CPG **shall** display results of operator initiated radar diagnostics.

3.2.4.3 (U) Fault Detection and Isolation

[CPG-916] (U) The CPG **shall** meet all operational performance requirements as described in this document, section titled *Performance Characteristics,* when the execution of b(3) is enabled.

[CPG-917] (U) The CPG **shall** include b(3 monitoring functions as they exist in the GFE and Commercial Off-the-Shelf (COTS) hardware.

[CPG-918] (U) The CPG **shall** enable execution of available b(3)

[CPG-919] (U) The CPG airborne equipment **shall** b(3) and report results when commanded.

[CPG-920] (U) The CPG, prior to the execution of b(3)

[CPG-921] (U) The CPG **shall** alert the operator if a fault condition is detected by b(3)

[CPG-922] (U) The CPG **shall** continue to meet mission critical functions as described in this document, section titled *Performance Characteristics,* independent of b(3)

[CPG-923] b(3) [redacted]

[CPG-924] (U) The CPG **shall** enable the operator to initiate fault isolation diagnostics on CPG subsystems.

[CPG-925] b(3) [redacted]

3.2.4.4 (U) Repair

[CPG-927] b(3) [redacted]

[CPG-928] b(3) [redacted]

[CPG-929] (U) The CPG **shall** be compatible with standard Army Automatic Test Equipment (ATE).

[CPG-930] (U) CPG integrated maintenance **shall** require no more than a single data entry of repair action information.

3.2.4.5 (U) Prognostics

[CPG-932] (U) The CPG **shall** collect data that can be used for prognostics from the CPG, the associated Platform, and the associated radar.

[CPG-933] b(3) [redacted]

[CPG-934] (U) The CPG **shall** alert the operator to impending faults and failures of components resulting from the predictions of the prognostic functions.

[CPG-935] (U) The CPG **shall** enable the operator to display system prognostic data.

3.2.5 (U) Environmental Conditions

3.2.5.1 (U) Natural Environments

3.2.5.1.1 (U) Temperature

[CPG-939] (U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, during exposure to an ambient temperature range from -40° to +49°C (Mean Sea Level). Temperature as a function of altitude is provided in Reference [19], Appendix F.

[CPG-940] (U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to an ambient temperature range from -46° to +71°C while configured for storage or transport, with the allowance of environmental kits and procedures for temperature extremes.

3.2.5.1.2 (U) Relative Humidity

[CPG-942] (U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, during exposure to a relative humidity range from 3% to 100% non-condensing.

[CPG-943] (U) The CPG, in an appropriate operational mode, **shall** meet all performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure, while in the deployment, storage, or transport configurations, to a relative humidity range from 3% to 100% non-condensing.

3.2.5.1.3 (U) Rain

[CPG-945] b(3)

[CPG-946] b(3)

3.2.5.1.4 (U) Hail

[CPG-948] (U) The CPG, excluding GFE, **shall** survive during exposure to hail up to one-half inch in diameter while operational.

[CPG-949] (U) While in the storage and transport configuration, the CPG **shall** be protected during exposure to hail up to one-half inch in diameter.

3.2.5.1.5 (U) Snow

[CPG-951] (U) The CPG, while in the Tactical state, **shall** meet all performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, during a snow falling rate of up to 1 inch/hour.

[CPG-952] (U) The CPG, while operational, **shall** meet all Performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, except sensor performance, to withstand a snow load of 48.9 kilograms per square meter (10 lb/ft2).

[CPG-953] (U) The CPG, while in storage and transport configurations, **shall** withstand a snow load of 97.7 kilograms per square meter (20 lb/ft^2) as described in Reference [27].

3.2.5.1.6 (U) Salt Fog

[CPG-955] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, when exposed to a salt atmosphere in sea locations and coastal regions. For information on salt atmospheres, see Reference [19] Appendix B.

[CPG-956] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to a salt atmosphere in sea locations and coastal regions while in a non-operational mode.

[CPG-957] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to a salt atmosphere during ocean transportation while in the transport configuration.

3.2.5.1.7 (U) Sand and Dust

[CPG-959] (U) The CPG, in the appropriate operational mode, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics* and *Subsystem Quality Factors,* (degraded sensor performance during operation is permitted) when exposed to blowing dust of up to 149 micrometers (or microns) diameter in concentrations of up to 10 ± 7 g/m^3 (0.3 ± 0.2 g/ft^3) for velocities up to 8.9 m/s (17.3 knots) (32.04 km/hr).

[CPG-960] (U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in this document, section titled *Performance Characteristics,* when surface equipment exposed to blowing sand for diameters in the range of 150 to 850 micrometers (or microns) diameter in concentrations of up to 1.1 ± 0.3 g/m^3 (0.033 ± 0.0075 g/ft^3) for velocities up to 29.0 m/s (56.4 knots) (104.5 km/hr).

[CPG-961] (U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in this document, section titled *Performance Characteristics,* when airborne equipment exposed to blowing sand for diameters in the range of 150 to 850 micrometers (or microns) diameter in concentrations of up to 0.18 -0.0/+0.2

g/m³ (0.05 -0.0/+0.0057 g/ft³) for velocities up to 29.0 m/s (56.4 knots) (104.5 km/hr). Note: for the Tactical Mode, blowing sand does not reach operational altitude.

[CPG-962] (U) The CPG, after assembly into the appropriate operational mode, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics* and *Subsystem Quality Factors,* following exposure, while in the storage and transport configurations, to blowing dust of up to 149 micrometers (or microns) diameter in concentrations of up to 10 ± 7 g/m³ (0.3 ± 0.2 g/ft³) for velocities up to 8.9 m/s (17.3 knots) (32.04 km/hr).

[CPG-963] (U) The CPG, after assembly into the appropriate operational mode, **shall** meet performance in 3.2.1 of this document following exposure, while configured for storage or transport, to blowing sand for diameters in the range of 150 to 850 micrometers (or microns) diameter in concentrations of up to 2.2 ± 0.5 g/m³ (0.06 ± 0.15 g/ft³) for velocities up to 29.0 m/s (56.4 knots) (104.5 km/hr).

3.2.5.1.8 (U) Fungus

[CPG-965] (U) The CPG **shall** be either composed of materials that inhibit the fungus growth or composed of materials which are protected from environments that would encourage fungus growth.

3.2.5.1.9 (U) Wind

[CPG-967] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, while being subjected to steady state winds up to 73 km/hr with turbulence of 1.98 m/s rms.

[CPG-968] (U) The CPG, in any state, **shall** survive an exposure to the following steady state wind conditions:

a. (U) up to 148 km/hr (80 knots) with turbulence of 3.05 m/s (10 ft/s) rms for airborne components

b. (U) up to 185 km/hr (100 knots) for ground equipment

3.2.5.1.10 (U) Lightning

[CPG-972] (U) The CPG ground based equipment **shall** be protected while operational, during movement, and during storage from direct and indirect lightning, including Lightning Electromagnetic Pulse (LEMP), in accordance with the lightning requirements of Reference [17]. Relevant sections of Reference [26] and Reference [107] can be used for guidance.

[CPG-2482] (U) The CPG airborne equipment **shall** be protected while operational, during movement, and during storage from direct and indirect lightning which produces a maximum induced current of 145 kA, including Lightning Electromagnetic Pulse (LEMP), in accordance with the lightning requirements of Reference [17]. Relevant sections of Reference [26] and Reference [107] can be used for guidance.

[CPG-973] (U) Following a near lightning strike without equipment damage, the CPG **shall** return to the state, mode and stored configuration existing prior to the strike through a controlled restart.

3.2.5.2 (U) Induced Environments

3.2.5.2.1 (U) Vibration

[CPG-976] (U) The CPG, while operational, **shall** meet performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, while being subjected to vibration levels caused by operation.

[CPG-977] (U) The CPG, while operational, **shall** meet all performance requirements in 3.2.1 *Performance Characteristics* and 3.2.4 *Subsystem Quality Factors* following exposure to vibration levels caused by normal transportation, maintenance, or storage. Transportation includes air, ground (both road and **b(3)** , and sea.

3.2.5.2.2 (U) Shock

[CPG-979] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, applicable to that operational mode, while being subjected to shock levels caused during normal operation of that mode.

[CPG-980] (U) The CPG LRUs **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after the LRUs are dropped, with drop height dependent on the LRU b(3)

b(3)

while packaged in their transit containers according to the applicable documentation.

3.2.5.2.3 (U) Transit Drop

[CPG-982] (U) After assembly into the appropriate operational configuration, the CPG fragile components **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, b(3) while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while the CPG is in the transport configuration.

[CPG-2605] (U) After assembly into the appropriate operational configuration, the CPG non-fragile components **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, b(3) while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while CPG is in the transport configuration.

[CPG-2551] (U) After assembly into the appropriate operational configuration, the CPG **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, b(3) while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while CPG is in the transport configuration.

3.2.5.2.4 (U) Ordnance

[CPG-984] (U) The CPG **shall** contain no electrically initiated devices (EID) or electro-explosive devices (EED).

3.2.5.2.5 (U) Electromagnetic Environment Effects (E3)

[CPG-987] (U) The CPG **shall** control unintentional emissions using Reference [16], Figure RE102-4 Army curve as guidance.

[CPG-988] (U) The CPG ground equipment **shall** meet all performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors* while protecting against spurious electromagnetic interference from other systems using Reference [16], Table V, Ground Army, as a guide.

[CPG-989] (U) Grounding and bonding on the CPG **shall** be implemented in accordance with the electrical bonding and external grounds requirements of Reference [17].

[CPG-990] (U) The combination of shelter shielding and internal enclosures/shielded cables **shall** provide b(3 isolation from external electromagnetic radiation.

[CPG-2414] (U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in 3.2.1 Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of intra-system radiated and conducted emissions.

[CPG-2415] (U) The CPG airborne equipment, excluding the GPS, in the appropriate operational mode, **shall** meet performance requirements in 3.2.1 Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of spurious in-band electromagnetic interference using Reference [16] RS103 (RE102 + 20dB). GFE must be Reference [16] compliant.

[CPG-2416] (U) The CPG airborne equipment, including the GPS, in the appropriate operational mode, **shall** meet performance requirements in 3.2. Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of spurious non-in-band electromagnetic interference b(3) GFE must be compliant with Reference [16]. Reference [19] defines the set of in-band frequencies for antenna-connected equipment.

3.2.5.2.6 b(3)

[CPG-2405] b(3)

3.2.5.2.7 (U) Electrostatic Discharge (ESD)

[CPG-993] (U) The CPG LRUs, or equipment cabinets as appropriate, except for GFE, **shall** meet the performance requirements in this document, section titled *Performance Characteristics*, b(3)

(U) Note: ESD discharges directly to connector pins are not included. This only includes ESD discharges to LRUs or equipment cabinets, as appropriate.

3.2.5.2.8 (U) Reserved

3.2.5.2.9 (U) Nuclear, Biological, and Chemical (NBC)

3.2.5.2.9.1 (U) Definitions

b(3)

b(3)

b(3)

b(3)

b(3)

b(3)

b(3)

3.2.5.2.9.2 (U) Exposure and Decontamination

[CPG-1005] (U) The CPG airborne enclosures, for the purpose of NBC protection, **shall** protect internal equipment from contamination caused by an NBC event as described in Reference [19], section titled *Nuclear, Biological, and Chemical, Definitions.*

[CPG-1006] (U) All exterior surfaces of ground based equipment **shall** be painted with Chemical Agent Resistant Coating (CARC), in accordance with Reference [29], with exterior topcoat 383 Green (color 34094 of Fed-Std-595)..

[CPG-2588] (U) All exterior surfaces of non-GFE Communications Payload airborne enclosures external to both the windscreen and the aerostat **shall** be painted with Chemical Agent Resistant Coating (CARC), in accordance with Reference [29], with exterior topcoat white (color 37875 of Fed-Std-595).

[CPG-1007] (U) The CPG **shall** be able to withstand contamination/decontamination as described herein while in the movement configuration. Items packaged in NBC protective ISO containers are protected by the containers.

[CPG-1008] (U) Transportation enclosures which are non-GFE and delivered as part of the CPG **shall** be able to withstand contamination/decontamination described herein such that it protects the equipment contained within the enclosure.

[CPG-1009] b(3)

[CPG-1010] b(3)

[CPG-1011] (U) The CPG, after subjection to worst case chemical and biological contamination, as specified herein, **shall** be restorable to an operational condition such that use of MOPP IV need not be continued, after being decontaminated using JLENS-specific decontamination procedures.

[CPG-1012] (U) The CPG **shall** meet all performance requirements in this document, section titled Performance Characteristics, during and following exposure to NBC contaminants while in the Tactical mode of the Operations state and in the operations configuration.

[CPG-1013] (U) The displays and equipment on the exterior of the CPG shelters **shall** be compatible with NBC protection and permit performance of mission-essential operations, communications, maintenance, re-supply, and decontamination tasks by personnel wearing cold weather/MOPP IV protective clothing, as described in Reference [10], sections titled *Operational Environment* and *Use with Individual Protective Equipment.*

[CPG-1014] (U) The CPG **shall** provide protection for personnel from the effects of NBC contamination, as described in Reference [19], section titled *Nuclear, Biological, and Chemical, Definitions,* by an Environmental Control System (ECS), equipped with an integrated Gas Particulate Filter Unit (GPFU) and through methodized use of an integral NBC protective entry vestibule in order to allow operation without MOPP IV gear during exposure.

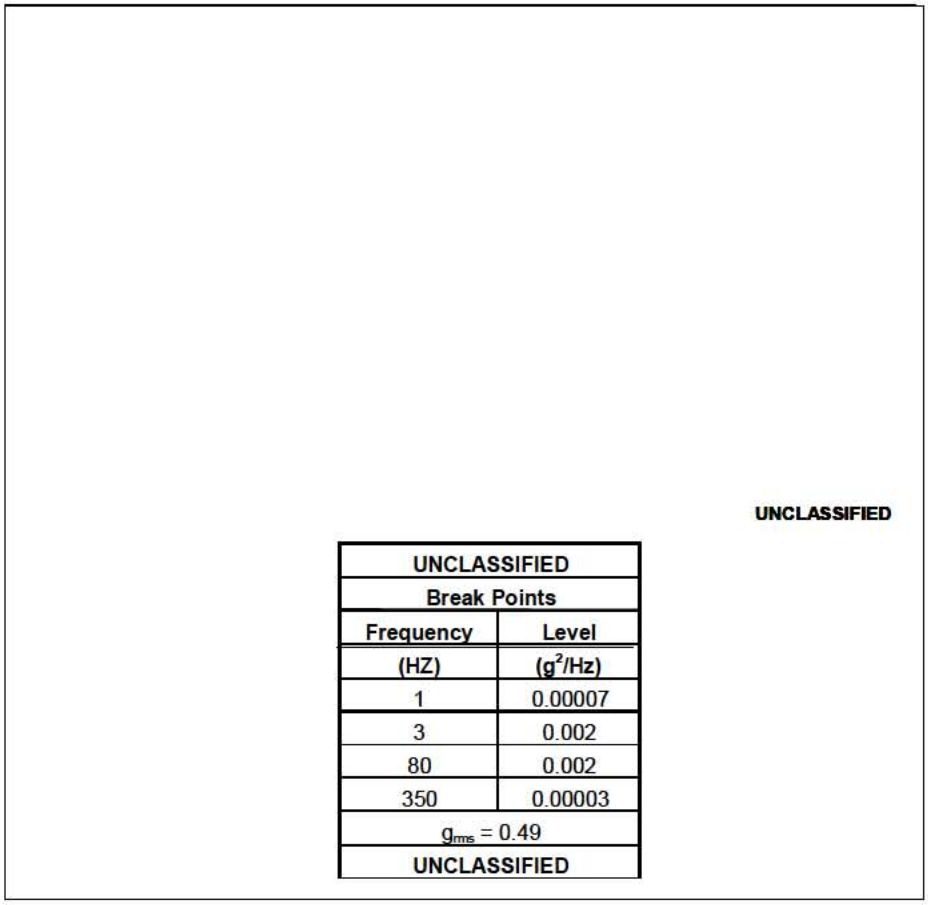
3.2.6 (U) Transportability

[CPG-1016] (U) All CPG equipment external to the CCS, DPS, and SPS, in transport configuration, **shall** be packed in 8' x 8' x 20' ISO containers. ISO container sizes which differ from 8' x 8' x 20' require approval by the JLENS Government Product Manager.

3.2.6.1 (U) Rail Transportation

[CPG-1018] (U) The CPG **shall** be rail transportable on b(3) cars.

[CPG-1019] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, after exposure to Railroad Transportation Vibrations no greater than 0.488g rms in each of the three axes as illustrated in Figure 4.



UNCLASSIFIED	
Break Points	
Frequency	Level
(HZ)	(g^2/Hz)
1	0.00007
3	0.002
80	0.002
350	0.00003
g_{rms} = 0.49	
UNCLASSIFIED	

FIGURE 4. (U) Rail Transport Vibration

[CPG-1021] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after being subjected to rail impact static equivalent loads no greater than 5.0 g longitudinal, 3.0 g vertical and 3.0 g lateral, incurred while in the transport configuration. This requirement applies to attachment points and bracketry.

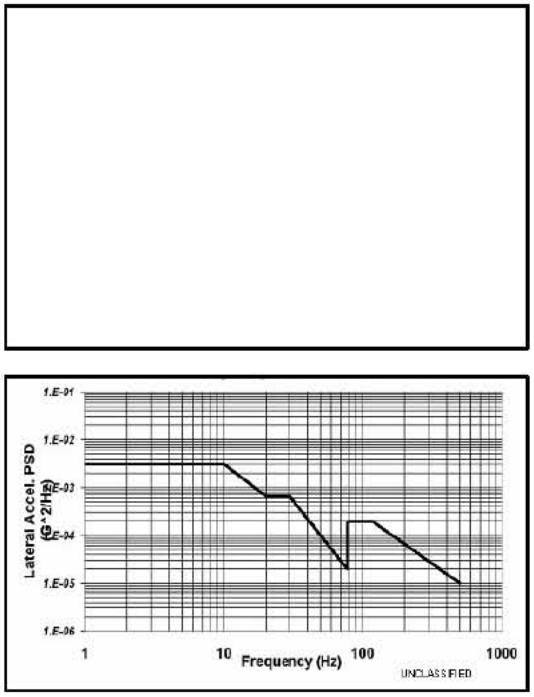
3.2.6.2 (U) Road Transportation

[CPG-1023] (U) The CPG, in the transport configuration, **shall** be transportable off-road for b(3)

[CPG-1024] (U) The CPG, in the transport configuration, **shall** be transportable on highways defined in Reference [20] including an allowance for special permits where the limits for load, vibration, and shock are presented in Reference [19] Appendix E.

[CPG-1025] (U) The CPG, in the transport configuration, **shall** be transportable on secondary roads where the limits for load, vibration, and shock are presented in Reference [19] Appendix E.

[CPG-1026] (U) The CPG, in the transport configuration, **shall** be transportable on unimproved roads where the limits for load, vibration, and shock are presented in Reference [19] Appendix E. Performance expected after transport on unimproved roads is represented by the Perry Cross-Country Course No. 1. For vibration spectra profile refer to Figure 5.



UNCLASSIFIED

Lateral		Vertical		Longitudinal	
freq (Hz)	PSD (g^2/hz)	freq (Hz)	PSD (g^2/hz)	freq (Hz)	PSD (g^2/hz)
1	3.00E-03	1	0.015	1	1.50E-03
10	3.00E-03	40	0.015	5	0.0065
20	0.00065	500	0.00015	20	0.0065
30	0.00065	Grms =	1.11 G	120	0.0002
78	0.00002	G-3sig =	3.18 G	121	0.003
79	0.00019			200	0.003
120	0.00019			240	0.0015
500	0.0001			340	0.00003
Grms =	0.28 G			500	0.00015
G-3sig =	0.84 G			Grms =	0.77 G
				G-3sig =	2.32 G

UNCLASSIFIED

UNCLASSIFIED

FIGURE 5. (U) Tactical Transport Vibration

3.2.6.3 (U) Sea Transportation

[CPG-1029] (U) The CPG **shall** be marine transportable in accordance with Reference [20] section titled *Water Transportation (Load on / Load off),* where load limits and vibrations are presented in Reference [19] Appendix E.

[CPG-1030] (U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to the Ship Transportation vibrations no greater than 0.315 g rms longitudinal, 0.315 g rms vertical, and 0.315 g rms lateral, incurred while in the transport configuration. For vibration spectra profile refer to Figure 6.

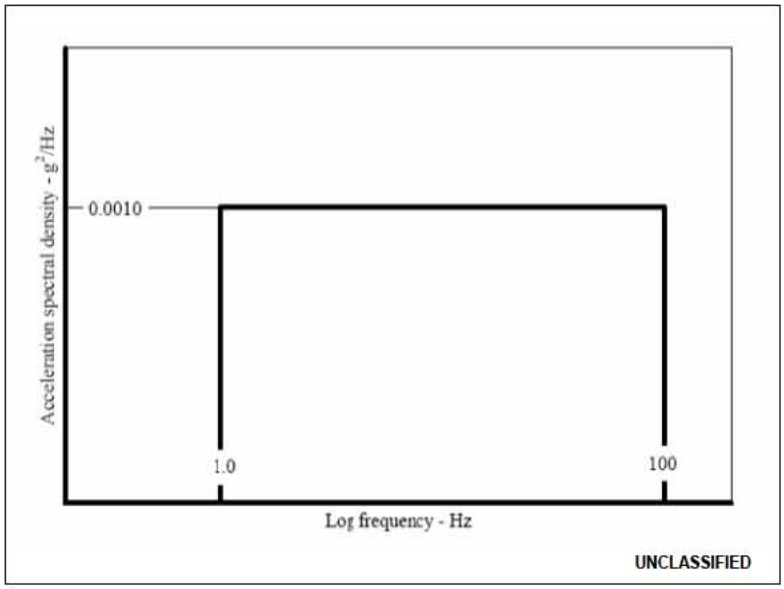
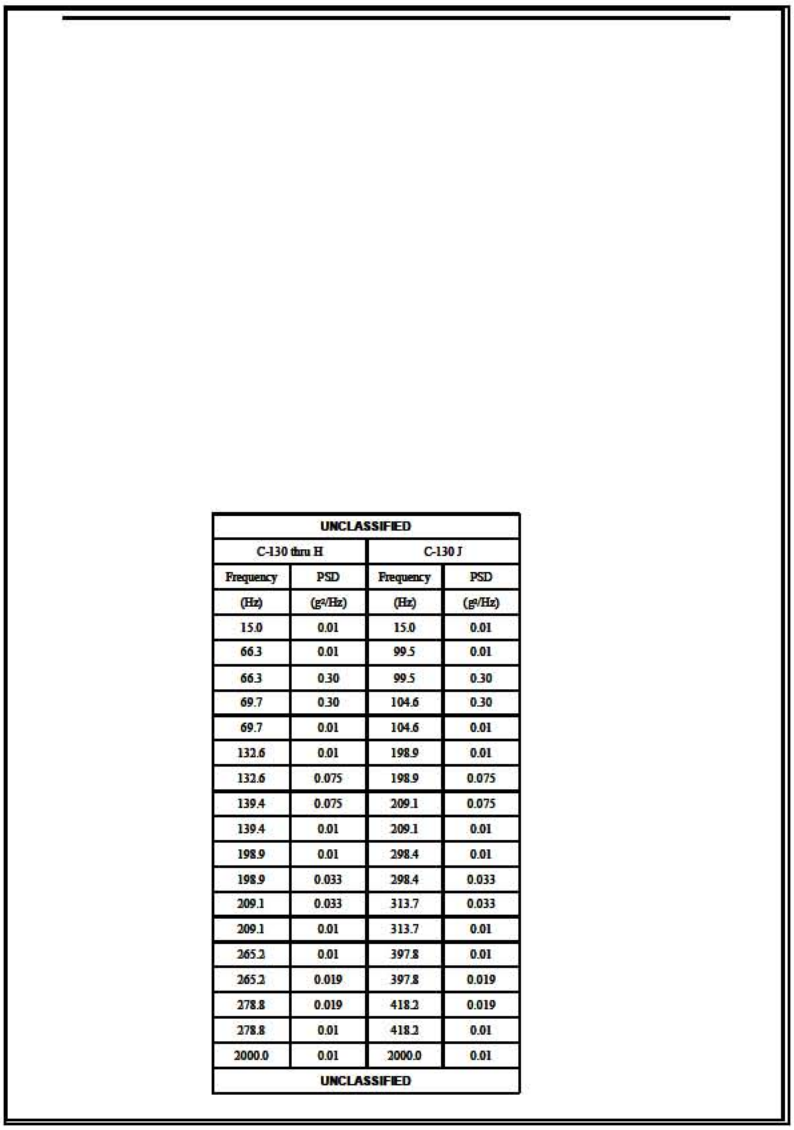


FIGURE 6. (U) Cargo Ship Transport Vibration

3.2.6.4 (U) Air Transportation

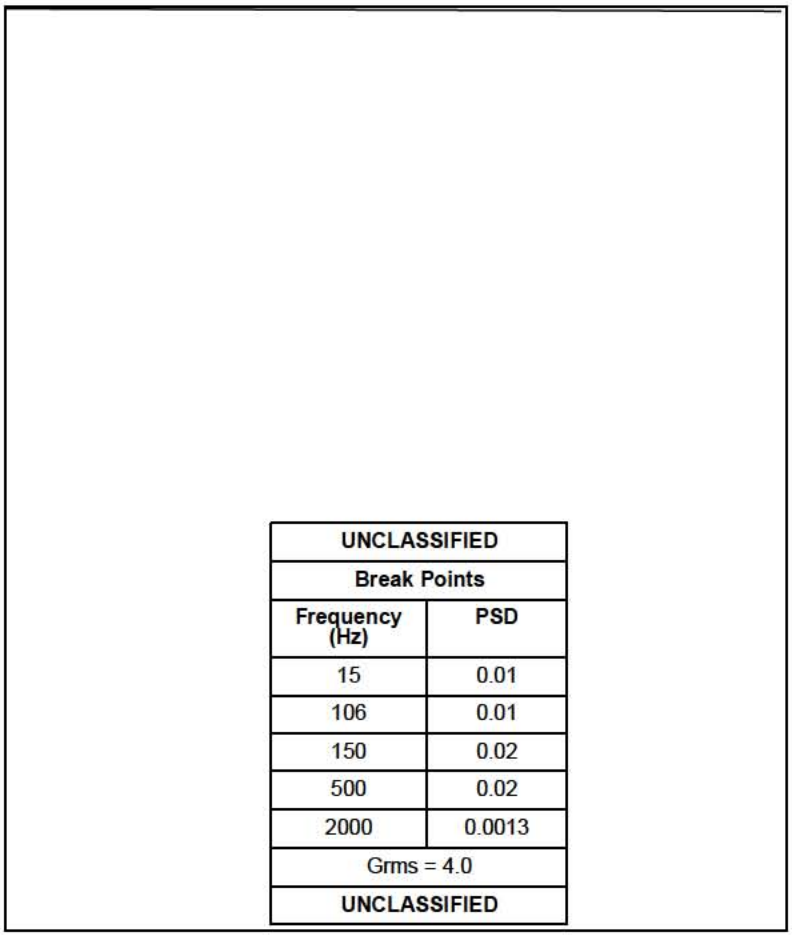
[CPG-1033] (U) The CPG **shall** be transportable via C-130 (except ISOs or shelters which are greater than 8 foot by 8 foot by 20 foot, in any dimension), C-5, and C-17 aircraft. The shock and vibrations experienced during C-130, C-5, and C-17 aircraft transport are presented in Reference [19] Appendix E.

[CPG-1034] (U) The CPG **shall** operate after exposure to the transportation vibration environment defined in Figures 7 and 8 for [redacted] **b(3)**



UNCLASSIFIED			
C-130 thru H		C-130 J	
Frequency	PSD	Frequency	PSD
(Hz)	(g^2/Hz)	(Hz)	(g^2/Hz)
15.0	0.01	15.0	0.01
66.3	0.01	99.5	0.01
66.3	0.30	99.5	0.30
69.7	0.30	104.6	0.30
69.7	0.01	104.6	0.01
132.6	0.01	198.9	0.01
132.6	0.075	198.9	0.075
139.4	0.075	209.1	0.075
139.4	0.01	209.1	0.01
198.9	0.01	298.4	0.01
198.9	0.033	298.4	0.033
209.1	0.033	313.7	0.033
209.1	0.01	313.7	0.01
265.2	0.01	397.8	0.01
265.2	0.019	397.8	0.019
278.8	0.019	418.2	0.019
278.8	0.01	418.2	0.01
2000.0	0.01	2000.0	0.01
UNCLASSIFIED			

FIGURE 7. (U) C-130 Tactical Aircraft Transport



UNCLASSIFIED	
Break Points	
Frequency (Hz)	PSD
15	0.01
106	0.01
150	0.02
500	0.02
2000	0.0013
Grms = 4.0	
UNCLASSIFIED	

FIGURE 8. (U) C-5 and C-17 Tactical Aircraft Transport

3.2.6.5 (U) Transport Packaging

[CPG-1038] (U) The CPG equipment in transport configuration **shall** have lift and tie-down provisions in accordance with Reference [5].

[CPG-1039] (U) Transportation enclosures which are non-GFE and delivered as part of the Orbit **shall** protect the equipment contained within the enclosure from damage due to:

a. (U) Temperatures extremes, as needed
b. (U) Snow
c. (U) Rain
d. (U) Hail
e. (U) Wind
f. (U) Blowing sand
g. (U) Lightning
h. b(3)
i. (U) NBC

as specified in section titled *Environmental Conditions* when in the transport configuration.

(U) as specified in this document section titled *Environmental Conditions* when in the transport configuration.

[CPG-1050] (U) The CPG, in the transport configuration, **shall** meet the U.S. Department of Transportation (DOT), North Atlantic Treaty Organization (NATO), and European Union (EU) Performance-Oriented Packaging (POP) standards for unrestricted highway, rail, and sea transportation.

[CPG-2606] (U) Each JLENS unique transportation fixture onto which fragile hardware is mounted **shall** be marked with special handling procedures using Reference [32] as guidance.

3.3 (U) DESIGN AND CONSTRUCTION

3.3.1 (U) Materials

3.3.1.1 (U) General

3.3.1.2 (U) Hazardous Materials

[CPG-1055] (U) The CPG **shall** be designed such that components containing hazardous materials listed in the EPA-17 and Class I Ozone Depleting Substances are only utilized in compliance with the JLENS Hazardous Materials Management Plan (HMMP). Note: Reference [19] Appendix A contains the aforementioned lists.

3.3.2 (U) Nameplates and Product Marking

[CPG-1057] (U) The CPG **shall** have all equipments marked in accordance with Reference [7] for unique identification with the following provisos and exceptions.

1. (U) Provisos to this requirement are:

   a. (U) Only hardware and software items with a unit acquisition cost no less than $5,000.

   b. (U) All hardware items with a unit acquisition cost less than $5,000 when they are serially managed, mission critical, or controlled inventory items.

2. (U) Exceptions to this requirement are as specified in Reference [7] section titled Detailed Requirements subsection titled Exemptions:

   a. (U) "COTS items marked with commercial identification (firm name, logo, part number, etc.), and which present no identification difficulty may be exempt from additional marking requirements. This exemption extends to COTS items identified on a VICD."

   b. (U) "Parts within an assembly or a sub-assembly, that are not subject to removal, replacement, or repair or"

   c. (U) "When parts are deemed too small for the application of complete marking in accordance with Reference [7] section titled *Machine-readable information (MRI) marking,* a logo or other abbreviated marking [will] be substituted for the design activity identification."

[CPG-1065] (U) The CPG **shall** have nameplates, labeling, and product marking in accordance with Reference [7].

3.3.3 (U) Safety

(U) Refer to 6.3 for the Safety assessment of all requirements in this document. The following assessments were applied:

a. (U) N - No Safety Impact

b. (U) SR - Safety Related Requirement

c. (U) SC - Safety Critical Requirement

3.3.3.1 (U) Personnel Safety

3.3.3.1.1 (U) General Safety

[CPG-1073] (U) The CPG **shall** comply with the applicable portions of Reference [9] *Guidelines on Personnel Hazards, Flammability, and Electrical Overload Protection.*

[CPG-1074] (U) The CPG **shall** allow the system to perform a function which inherently increases Mishap Probability only if one of the following conditions is satisfied:

a. (U) all relevant pre-requisite safety checks are passed prior to performing the potentially hazardous function, or

b. (U) the safety checks have been explicitly overridden.

[CPG-1077] (U) The CPG **shall** have emergency lighting capability upon power failure.

[CPG-1078] (U) The CPG **shall** have a second egress capability.

[CPG-1079] (U) The CPG **shall** have lift points that are clearly labeled.

[CPG-1080] (U) The CPG **shall** have floor surfaces and stair and step trades that provide non-slip characteristics.

[CPG-1081] (U) The CPG **shall** have a configuration that prevents equipment from tipping over or falling on personnel performing operations, maintenance, or training tasks.

[CPG-1082] (U) The CPG **shall** use self sealing connectors for coolant lines to reduce the likelihood of coolant leakage during CPG operation and maintenance as appropriate.

[CPG-1083] (U) The CPG **shall** have danger and caution signs, labels, tags, and markings to warn of specific voltages, current, thermal, or physical hazards including:

a. (U) Color code per Reference [100]

b. (U) For potentials between 70 and 500 Volts, display "WARNING" sign and list maximum voltage

c. (U) For potentials in excess of 500V, display the "DANGER" and "HIGH VOLTAGE" signs and list maximum voltage

d. (U) Microwave of RF radiation warning signs, labels, or tags should be in accordance with Reference [102], Reference [103], or Reference [104].

[CPG-1088] (U) The CPG **shall** limit acoustic noise levels in accordance with Reference [21], *Steady-State Noise, Personnel Occupied Areas.* Hearing protection may be used to reduce the levels.

[CPG-1089] (U) The CPG **shall** transition to a safe state upon completion of a hazardous condition.

[CPG-1090] (U) If hardware safety interlocks are to be utilized by the CPG, the interlocks **shall** not be overridden by software.

[CPG-1091] (U) The CPG interlocks **shall** be self-resetting.

3.3.3.1.2 (U) Electrical Safety

[CPG-1093] (U) The CPG **shall** have a means to reduce the voltage at test points to less than 300V if the potential to be measured is in excess of 300V peak.

[CPG-1094] (U) The CPG assemblies which contain circuits operating at potentials in excess of 500V **shall** be completely enclosed with any access covers and plates equipped with non-bypassable interlocks that activate to shut down power.

[CPG-1095] (U) The CPG **shall** have at least 3 barriers, to preclude accidental contact under all conditions of operation and maintenance, for all potentials between 30V and 500V.

[CPG-1096] (U) The CPG high voltage circuits containing capacitors which store more than 0.25 joules **shall** have discharging devices unless they discharge to 30V or less within 2 seconds after power removal for maintenance purposes. Note: This does not apply to batteries.

[CPG-1097] (U) The CPG **shall** have external conductive surfaces of equipment housing hazardous voltages grounded to a common static and safety ground point.

[CPG-1098] (U) The CPG **shall** have catastrophic hazards mitigated by at least three barriers one of which must be a fail-safe device. Fail-safe device, barrier, and critical hazard are defined in Reference [28].

[CPG-1099] (U) The CPG **shall** have critical hazards mitigated by at least two barriers, one of which must be a fail-safe device.

[CPG-1100] (U) The CPG **shall** have visible markings for LRUs sensitive to Electrostatic Discharge (ESD).

[CPG-1101] (U) The CPG **shall** prevent shorting of circuits carrying more than 25A. Appropriate means may include guards and warning labels.

[CPG-1102] (U) The CPG **shall** have Ground Fault Circuit Interrupters (GFCI) for all external outlets.

[CPG-1103] (U) External connectorized power sources (greater than 30V) provided by the CPG **shall** be either GFCI or interlocked. The order of precedence is:

a. (U) Hardwired with metallic conduit or shielded cable with GFCI

b. (U) GFCI if maximum threshold is more than 20mA

c. (U) Fail-safe interlock

[CPG-1107] (U) The CPG interlocks **shall** be fail-safe.

[CPG-1108] (U) The CPG **shall** ensure that powered ends of connectors are protected from accidental contact.

[CPG-1109] (U) The CPG equipment **shall** have exposed external metallic parts, surfaces, and shields, exclusive of antenna and transmission line terminals, at ground potential during normal operation as suggested in Reference [9], Guideline 1, *Ground.*

[CPG-1110] (U) The CPG **shall** have a point on all electrically conductive chasses that will serve as the common tie point for static and safety grounds using Reference [9], *General Guidelines for Electronic Equipment,* Guideline 1, *Ground.*

[CPG-1111] (U) The CPG equipment **shall** have connectors which preclude the mismating of cables in a manner which would cause malfunction, damage to equipment or hazard to personnel. Where design considerations require plug and receptacles of similar configuration in close proximity, the mating plugs and receptacles should be suitable coded or marked to clearly indicate the mating connectors.

3.3.3.1.3 (U) Mechanical Safety

[CPG-1113] (U) The CPG **shall** have a combination of procedures, guards, and safety devices to preclude contact with moving mechanical parts such as gears, fans, and belts during operation and maintenance.

[CPG-1114] (U) The CPG **shall** have an interlock which disables mechanical motion of the CPG ECS during maintenance.

[CPG-1115] (U) The CPG equipment **shall** have door or hinged covers that are provided with stops to hold them open as appropriate.

[CPG-1116] (U) The CPG **shall** have physical guards to prevent inadvertent exposure of personnel to surface temperatures outside the maximum/minimum (Reference [10], section titled *Thermal Contact Hazards Table XXI,* or less than 0 degrees Celsius) except for surface temperatures induced by climactic environment.

3.3.3.1.4 (U) Fire Safety

[CPG-1118] (U) The CPG shelters **shall** have fire extinguishers, smoke alarms, and carbon monoxide detectors.

[CPG-1119] (U) The CPG UPS batteries **shall** not vent flammable gas when a single failure occurs.

3.3.3.1.5 (U) Hazardous Materials

[CPG-1121] (U) The CPG **shall** vent battery enclosures to prevent the buildup of flammable gas, as appropriate.

[CPG-1122] (U) The CPG **shall** have no radioactive materials which are defined by the Nuclear Regulation Commission that have greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries.

3.3.3.1.6 (U) Electromagnetic Safety

[CPG-1124] (U) The CPG **shall** have provisions to protect personnel and fuel against the hazards of electromagnetic radiation using Reference [106].

3.3.3.1.7 (U) Emergency Power Shutdown

[CPG-1126] (U) The CPG **shall** provide local emergency power shutdown capability at manned locations and shelters.

3.3.3.2 (U) Software Safety

[CPG-1128] (U) The CPG **shall** ensure that safety critical functions execute to completion, barring loss of power. Exiting a safety critical function gracefully can be considered executing to completion.

[CPG-1129] (U) The CPG **shall** display an indication of the occurrence of an exception that terminates a CPG operational sequence containing a safety critical function.

[CPG-1131] (U) The CPG **shall** validate the contents of software executables prior to execution and data files prior to use.

[CPG-1132] (U) The CPG **shall** enable the operator to cancel a safety critical function or software function causing a hazardous condition with a single action. The single action may consist of pressing two keys, buttons, or switches simultaneously.

[CPG-1133] (U) The CPG **shall** verify correct transfer of safety critical messages. Verification includes providing acknowledgements, performing cyclic redundancy checks, and checking message protocol formats.

3.3.3.3 (U) Hardware Safety

[CPG-1135] (U) The CPG **shall** have over temperature detection devices to mitigate overheating hazards that result in damage to the equipment over $1M.

3.3.4 (U) Human Engineering

3.3.4.1 (U) Anthropometrics

[CPG-1138] (U) The CPG **shall** have reach access for inserting, adjusting, and/or removing a unit or assembly as specified in Reference [10], section titled *Physical Access.*

[CPG-1139] (U) The CPG replacement units, assemblies, and connectors **shall** meet the insertion, removal, and grip force requirement in Reference [10], section titled *Design for Maintainability.*

[CPG-1140] (U) The CPG **shall** have visual access for corrective and preventative maintenance tasks as specified in Reference [10], section titled *Visual Access.*

[CPG-1141] (U) The CPG **shall** have access openings and clearance dimensions for inserting, adjusting, and/or removing a unit or assembly as specified in Reference [10], section titled *Physical Access.*

[CPG-1142] (U) The CPG units and assemblies **shall** be configured for removal, carry, and replacement as specified in Reference [10], section titled *Weight.*

[CPG-1143] (U) The CPG **shall** have work areas and equipment that accommodate a soldier population that ranges in stature from the 5th percentile female to the 95th percentile male as specified in Reference [10], sections titled *Physical Accommodation and Workspace Design.*

[CPG-1144] (U) The CPG **shall** have workstations, controls, indicators, and Graphical User Interfaces that are mounted for seated operations as specified in Reference [10], section titled *Seated Operations.*

3.3.4.2 (U) Environmental Control Systems

[CPG-1146] (U) The CPG **shall** provide a controlled environment that meets the temperature range, humidity range, and ventilation requirements, for operators and operation of all installed equipment within the CPG in accordance with Reference [10], sections titled *Heating, Air Conditioning, Humidity, and Ventilation.*

3.3.4.3 (U) Human-to-Machine Interfaces

[CPG-1148] (U) The CPG **shall** have human-to-machine interfaces with state-of-the-art computer and display technology, excluding GFE. This requirement does not apply to non-CPG items that the CPG houses such as the Flight Director Platform software and SDP.

3.3.4.4 (U) Displays, Controls, Signals, and User Interfaces

[CPG-1150] (U) The CPG **shall** have controls using the guidance of Reference [10], section titled *Controls.*

[CPG-1151] (U) The CPG **shall** present alerts and rejects using the guidance of Reference [10], section titled *User-Computer Interface.*

[CPG-1152] (U) The CPG **shall** present visual displays using the guidance of Reference [10], section titled *Visual Displays.*

[CPG-1153] (U) The CPG **shall** have identifications, labels, legends, signs, and warnings using the guidance of Reference [10], section titled *Labeling,* and Reference [103].

3.3.5 (U) Information Assurance and System Security

3.3.5.1 (U) Security Design and Configuration

[CPG-1156] (U) The CPG **shall** use Approved Information Assurance (IA) products or IA-enabled products for all information system security functions. Approved products are those which have been evaluated by the NSA or in accordance with NSA-Approved processes.

[CPG-2501] (U) The CPG **shall** incorporate the security principle of least privilege.

[CPG-1169] (U) The CPG **shall** incorporate identification, authentication, and access controls.

[CPG-2500] b(3)

[CPG-2505] (U) The security support structure of the CPG **shall** be isolated. Means of isolation may include the use of partitions and/or domains that control access to and integrity of hardware, software, and firmware that perform security functions.

3.3.5.2 (U) Enclave and Computing Environment

[CPG-1161] b(3)

[CPG-2585] b(3)

[CPG-2507] [redacted] b(3)

[CPG-2589] [redacted] b(3)

[CPG-1162] [redacted] b(3)

(U) The CPG **Shall** deploy host-based intrusion detection systems for medium or high risk operator-interactive applications, except where tactical system performance would be degraded or Army-approved solutions are not available.

[CPG-1172] (U) The CPG **shall** protect against compromising emanations using the design guidelines of NSTISSAM TEMPEST 2-95A.

[CPG-1164] (U) The CPG **shall** implement virus protection for all servers, workstations, and mobile computing devices.

3.3.5.3 (U) Enclave Boundary Defense

[CPG-1165] (U) The CPG **shall** incorporate boundary defense mechanisms. [redacted] b(3)

3.3.5.4 (U) Physical and Environmental

[CPG-1168] (U) The CPG **shall** implement locks and alarms for the protection of classified information systems in accordance with the appropriate level of classification. Information systems include processing and communications equipment.

3.3.5.5 (U) Processing Enclave

[CPG-1157] (U) The CPG **shall** provide an enclave for unclassified information.

[CPG-1158] (U) The CPG **shall** provide an enclave for classified information.

3.3.5.6 (U) Unauthorized Access

[CPG-1171] [redacted] b(3)

[CPG-2418] (U) The CPG **shall** provide the interface to allow the operator to command the associated radar to [redacted] b(3)

[CPG-2398] [redacted] b(3)

3.3.5.7 (U) Automatic Configuration Checks

[CPG-1177] (U) The CPG **shall** perform configuration checks during system initialization. Note: Configuration checks are performed on the hardware to validate that the interface, network, data storage, and processing related items are present and operational.

[CPG-2578] (U) The CPG **shall** perform configuration checks during the system initialization of the loaded software [redacted] b(3)

[CPG-2452] (U) The CPG **shall** perform system configuration checks during an orderly system shutdown.

[CPG-1179] (U) The CPG **shall** alert the operator upon completion of configuration checks and display the configuration check results of the CPG, associated radar, and the Platform.

[CPG-1180] (U) The CPG **shall** enable the operator to manually acknowledge the configuration checks results of the CPG, the Platform, and the associated radar.

[CPG-1178] (U) Prior to transitioning the system to Tactical mode, The CPG **shall**

a) have received a pass on all hardware and software configuration checks or

b) have received an operator over-ride to hardware and software configuration checks that have not all passed.

[CPG-1181] (U) The CPG **shall** create and maintain a log which includes the results of the configuration checks for the CPG, the associated Platform, and the associated radar.

[CPG-1182] (U) The CPG **shall** record hardware and software configuration data to the configuration log.

3.3.6 (U) Government Furnished Property Usage

3.3.7 (U) Computer Resource Reserve Capacity

[CPG-1185] (U) The CPG subsystems **shall** be designed with 50% data processing reserves for computer throughput and computer memory.

3.3.7.1 (U) Computer Hardware

[CPG-1190] (U) The CPG **shall** have non-volatile data storage devices with removable media.

[CPG-1191] (U) The CPG classified data storage media **shall** be removable with the use of standard tools or standard equipment.

3.3.7.2 (U) Computer Hardware Resource Utilization

3.3.7.3 (U) Computer Software

[CPG-1194] (U) The CPG, excluding GFE, **shall** receive and forward IPv6 packets, and interface with other systems and protocols in accordance with Reference [8].

3.3.8 (U) Interchangeability

[CPG-1196] (U) The CPG CCS **shall** be interchangeable between the SuS and the FCS.

[CPG-1197] (U) The CPG airborne equipment **shall** be interchangeable between the SuS and the FCS.

3.4 (U) DOCUMENTATION

[CPG-1199] (U) The CPG design **shall** comply with the applicable information technology standards contained in the DoD Information Technology Standards Registry (DISR).

3.5 (U) LOGISTICS

3.5.1 (U) Supply

3.5.2 (U) Maintenance

[CPG-1205] [redacted] **b(3)**

3.5.3 (U) Vehicles, Shelters, and Trailers

[CPG-1207] (U) The CPG **shall** be designed such that standard military vehicles can be used for ground transportation.

[CPG-1208] (U) The CPG **shall** be designed to use standard military vehicles, shelters, and trailers unless the government approves justification for non-military equipment.

3.5.4 (U) Lifting and Handling Equipment

[CPG-1210] (U) The CPG **shall** be designed such that standard military vehicles can be used for handling.

[CPG-1211] (U) The CPG **shall** be designed to use military lifting and handling equipment, unless the government approves justification for non-military equipment.

3.5.5 (U) March Order and Emplacement

[CPG-1213] b(3)

[CPG-1214] b(3)

3.6 (U) PERSONNEL

3.7 (U) SUBSYSTEM CHARACTERISTICS

(U) The CPG contains the major software and hardware subsystems listed below and described in the following sections. 6.3 provides the allocation of the CPG requirements to these subsystems.

(U) Software Subsystems

- (U) Mission Support
- (U) Mission Operations
- (U) Display and Process Manager
- (U) Embedded Training (ET)
- (U) Health Management System (HMS)

(U) Hardware Subsystems

- (U) Communication and Control Station
- (U) Data Processing Station
- (U) Signal Processing Station
- (U) Communications Payload

(U) The hardware subsystems consist of the six (6) critical items listed below

- (U) Communications and Control Station (CCS) Shelter
- (U) Data Processing Station / Signal Processing Station (DPS/SPS) Shelter
- (U) CPG Environmental Control System(ECS)
- (U) Power Subsystem (PWR)
- (U) Communications, Networks, and Processors (CNP)

- (U) Communications Payload (CP)

3.7.1 (U) Software Subsystems

3.7.1.1 (U) Mission Support (MS)

(U) The MS function of the CPG exchanges, generates, and displays mission planning and situational awareness data such as the air and ground pictures, tactical data, and terrain information. The MS also collects, maintains, and displays JLENS status information. Other functions of the MS include initiating diagnostic tests, display of diagnostic results and system alerts, and management of system parameters.

3.7.1.2 (U) Mission Operations (MO)

(U) The MO function of the CPG supports real-time tactical operations. MO integrates external network (Link-16/JRE, CEC, and IBS; and ABCS via MS) data with local radar data and operator-entered data to develop the Integrated Air and Ground Picture (IAGP). The MO function supports tactical data exchange of the IAGP with Link-16/JRE, and uses Link-16 to communicate with HEU(EO). It also provides the IAGP to the MO operator and the MS Subsystem and enables the MO operator to control and task the JLENS radars.

(U) A primary responsibility of the MO function is to ensure the SuR and FCR resources are utilized to maintain the required tracking and engagement support in a prioritized manner. The MO provides MO, Link-16/JRE, IBS, and CEC status to MS.

(U) The MO function also delivers configuration data to the SuR and FCR to support operations under the geographic and environmental conditions at the emplacement site.

For <topic>, refer to Appendix B.

3.7.1.3 (U) Display and Process Manager (DPM)

(U) The Display and Process Manager (DPM) function provides top-level control of the classified processing environment. It controls workstation access, provides software control of display utilization, initiates and terminates processes for other Software Items (SIs), and controls and provides data recording and archiving for the CPG and radar. The DPM includes the Display Command Processor (DCP), which provides a maintenance and administrative interface to the radar through a web browser interface.

3.7.1.4 (U) Embedded Training (ET)

(U) The CPG Embedded Training (ET) mainly consists of the JLENS All-software SuR/PTIR Emulation in Real-time (JASPER) with additional models and interfaces to support operator proficiency training. ET is used to support operator-in-the-loop Distributed Interactive Simulation (DIS) and High Level Architecture (HLA) simulation exercises in a distributed environment. ET provides real-time emulation of the SuR and FCR, which are modeled separately. The two models share common code, but are run independently with no interfaces between them. Significant differences include FCR model capabilities for cued search, identification, radar resource scheduling, and engagement support.

(U) ET may be used to drive the CPG processing functions in place of the SDP. ET can interoperate with the Mission Operations and Mission Support software subsystems of the CPG in order to support test and training activities.

3.7.1.5 (U) Health Management System (HMS)

(U) The Health Management System (HMS) function provides health, status, and prognostics assessment for the JLENS system. HMS collects, maintains, and displays JLENS status information. Other functions of the HMS include initiating diagnostic tests, display of diagnostic results, and system alerts.

3.7.2 (U) Hardware Subsystems

(U) CPG hardware subsystems include the CCS, the SPS (SuS only), the DPS, and the CP. The CCS and DPS are each housed within a standard, non-expandable, ISO-sized military shelter. The ISO shelter supports the use of standard lifting, handling, and securing methods for land (including rail), air (C-130, C-5, C-7 aircraft), and sea transportation. The shelter is capable of Road March via wheeled vehicles over primary and secondary roads, as well as off-road movement, using Reference [20] as a guide. The shelters also have Nuclear, Biological, and Chemical (NBC) warfare protection systems and camouflage netting to reduce the risk of detection.

(U) Communications, network, and processor components reside mostly within the CCS. These components provide capabilities such as operator voice communications via intercom between the CCS and other ground-based shelters, and communications over external links. They also provide the connectivity for computational resources internal to the CCS and the interfaces to the DPS, SPS, and CP.

3.7.2.1 (U) Communication and Control Station (CCS)

(U) The CCS is a ground-based station that provides a protected environment for equipment, operator stations, and operations personnel within the JLENS system. The CCS also contains storage for gear and classified removable data. The CCS is a human-occupied shelter where the primary coordination and system functions are performed.

(U) The CCS provides:

a. (U) A protected environment to optimize human performance for the 5th to 95th percentile of Army personnel for extended operations. e.g., space, air conditioning, heat, NBC protection. The controlled environment is provided by the environmental control system (ECS), which is primarily a ground-located Heating/Ventilation/Air Conditioning (HVAC) unit;

b. (U) Three operator stations to support Mission Operations, Mission Support, and Flight Director functions;

c. (U) A site security position that includes a table and seating arrangement for an operator using portable equipment for short periods of moderate activity;

d. (U) Storage for soldier gear (e.g., MOPP IV, weapons, jackets, helmets);

e. (U) Secure storage for classified removable media and/or data without the use of tools or special equipment;

f. (U) Structural integrity to prevent equipment damage due to shock or vibration stress and temperature extremes; and

g. (U) A power distribution system that provides protected power circuit distribution to equipment within the shelter, as well as an Uninterrupted Power Supply (UPS) for general racks in the CCS.

(U) CCS software performs six (6) major functions: assembling the composite air picture; providing composite target identification support; providing engagement support; performing threat prioritization; performing radar management; and monitoring and controlling the system. The CCS distributes data to external subscribers such as other CEC nodes, weapon systems, and command centers.

3.7.2.2 (U) Data Processing Station (DPS)

(U) The DPS is a ground-based station that houses the SDP, which is part of the SuR or FCR PI. The DPS, like the CCS, provides a protected environment for equipment and maintenance personnel within the JLENS system. The main components of the DPS are high power signal data processors, data recording hardware, and environmental control systems. The ECS in the DPS are sized for use with the radar equipment. The DPS is normally unmanned, except during repair or maintenance.

(U) The DPS provides:

a. (U) A protected environment to support equipment operational requirements and short-term human inhabitance for maintenance and repair activity;

b. (U) Housing for an SDP;

c. (U) A High Speed Data Recording system with battery back-up;

d. (U) Interfaces to an ECS, which provides heating and cooling to the DPS;

e. (U) A power distribution system that provides protected power circuit distribution to equipment within the shelter, as well as UPSs for the data processors and for general racks in the DPS;

f. (U) Storage for soldier gear;

g. (U) Secure storage for classified removable media; and

h. (U) Structural integrity to prevent equipment damage due to shock or vibration stress and temperature extremes.

3.7.2.3 (U) Signal Processing Station (SPS)

(U) The SPS is a third ground-based station used in the Surveillance System which has its own unique equipment list to support the signal processing functions of the SuR. The SPS performs pre-processing of data for the DPS in the SuS. While the SPS is a hardware subsystem of the CPG, the processing equipment contained in the SPS is a part of the SuR PI.

(U) The SPS, like the CCS, provides a protected environment for equipment and maintenance personnel within the JLENS system. To enable this, the SPS is equipped to communicate via intercom to other ground-based shelters through the CPG communication, network, and processor function, and has an ECS sized for use with radar equipment.

(U) The SuR SPS provides:

a. (U) A protected environment to support equipment operational requirements and short-term human inhabitance for maintenance and repair activity;

b. (U) Housing for two SDPs;

c. (U) A power distribution system that provides protected power circuit distribution to equipment within the shelter, as well as UPSs for the data processors and for general racks in the DPS;

d. (U) Interfaces to an ECS, which provides heating and cooling to the SPS;

e. (U) Storage for soldier gear;

f. (U) Secure storage for classified removable media; and

g. (U) Structural integrity to prevent equipment damage due to shock or vibration stress and temperature extremes.

3.7.2.4 (U) Communication Payload (CP)

(U) The primary function of the CP is to provide reliable transport of data between the airborne and ground-based portions of the JLENS system via the tether. Information required to support ADSAM engagements and the development of a SIAP are exchanged between the CPG and external weapon systems and Battle Management, Command, Control, Communications, Computers, and Intelligence (BMC4I) nodes via the GFE radio equipment in the CP.

(U) The CP consists of the fiber-optic equipment that interfaces to the tether, the GFE radio equipment such as the MIDS radio and CEC antenna, and the optical surveillance equipment. The CP has equipment mounted on the aerostat and equipment located on the ground-based portion of the CPG. Equipment in the CP can be organized by location as the Airborne Equipment and the Ground Equipment. Airborne CP equipment includes the MIDS LVT-2 terminal, the CEC antenna, its interface and ancillary equipment, the optical surveillance equipment, and the airborne fiber-optic interface (AFOI). Ground CP equipment includes the ground fiber-optic interface (GFOI), housed in the ground-based portion of the CPG.

3.7.3 (U) Hardware Critical Items

(U) The ground-based portion of the CPGs in a JLENS Orbit consists of five shelters: (1) SuR CCS, (2) SuR DPS, and (3) SuR SPS, which are associated with the SuR Aerostat Vehicle (A/V); and (4) FCR CCS, and (5) FCR DPS, which are associated with the FCR A/V.

(U) The CPG ECS is a ground-based unit that provides temperature, humidity, and air quality, controlled environments inside a standard Military Non-Expandable ISO Shelter for equipment and operations and maintenance personnel within the associated shelters.

(U) The Power Subsystem (PWR) consists mainly of the Power Entry Panel, b(3) Power Distribution Units (PDUs) in each shelter, UPS units for selected mission critical loads, and the interconnects for fault monitoring and data distribution to send status back to the CCS.

(U) The CNP Subsystem consists of elements that enable organic as well as non-organic voice and data communications, network connectivity, and computer resources required to perform CPG mission critical functions. CNP components primarily reside in the CCS.

(U) Each DPS connects to the CP via a fiber-optic interface (FOI). The CP contains the airborne components of the CPG, consisting of GFE such as the MIDS radio and CEC antenna, the AFOI, and concentrator equipment. The interface between the AFOI and GFOI is provided via the tether and ground cables from the mooring station to the DPS.

4 (U) VERIFICATION

4.1 (U) REQUIREMENTS VERIFICATION

(U) The Requirements Traceability and Verification Matrix (RTVM) in Table II cross-correlates each requirement with a verification method as defined in Subsection 4.2. This table also includes the test period and verification level.

4.2 (U) QUALITY CONFORMANCE VERIFICATION

(U) Qualification of the CPG to ensure compliance with the requirements contained in this document will be by demonstration, test, analysis, or inspection as described in the following sections.

4.2.1 (U) Demonstration

(U) Demonstration is the verification method used to verify requirements by exercising or operating the system or a part of the system in which instrumentation or special test equipment is not required beyond that inherently provided in the system being verified. In the demonstration method, sufficient data for requirements verification can be obtained by observing functional operation of the system or part of the system. When this verification method generates data that is recorded by inherent instrumentation, inherent test equipment, or operational procedures, any analysis that must be performed using the data collected during the demonstration will employ the analysis methods of verification described in subsection 4.2.3.

4.2.2 (U) Test

(U) Test is the verification method used to verify requirements by exercising or operating the system or a part of the system using instrumentation (hardware and/or software) or special test equipment that is not an integral part of the system being verified. The test method by its nature generates data, which is recorded by the instrumentation, test equipment, or procedures. Tests are repeatable, statistically significant, and have pre-established pass/fail criteria. Analysis or review is performed on the data derived from the testing. This analysis is an integral part of the test process and should not be confused with the analysis method of verification described in subsection 4.2.3.

4.2.3 (U) Analysis

(U) Analysis consists of the examination of applicable attributes of the existing documentation, hardware, software, and recorded data to verify that requirements have been satisfied. Analysis includes verification by investigation,

mathematical analysis, simulation, and sampling the collection of measured data and observing test results with calculated, expected values to establish conformance with stated requirements. Simulation includes verification through the use of mathematical models, which replicate: 1) the operation or performance of the equipment being evaluated; 2) the threat, against which the equipment must operate; 3) the environment in which the equipment must operate; and 4) combinations of the equipment, threat, and environmental simulators.

4.2.4 (U) Inspection

(U) Inspection consists of visual examination, physical manipulation, or measurement as applicable, of documentation, hardware, or software to verify that requirements have been satisfied.

4.2.5 (U) Test Period

(U) This column contains the test period, where the requirement verification will be conducted for the purpose of sell-off of the completion of the prime item. The sell-off of the verification of a requirement at the PIDS level of verification may or may not be used at the sell-off at the System and/or the Orbit level of verification. The sell-off of the requirement at the PIDS level of verification is the criteria that will be used by System Integration for the acceptance of the prime item into the System Integration process.

(U) As part of the process of this verification activity, there will be an acceptance sign-off activity in the post-test review meeting signifying that the requirement is verified. If there are analysis data that must be examined prior to sign-off, a post analysis meeting will be conducted to review and sign-off the analysis and acceptance of the completed verification.

4.2.6 (U) Verification Level

(U) This column contains the specification level, where the requirement verification will be conducted for the purpose of sell-off of the completion of the prime item. The level may be the PIDS level, the subsystem integration level, a "thread" level, or other level within the prime item IPT test program. The levels must be defined and scheduled in the prime item development plan.

4.3 (U) Requirements Verification Matrix

(U) Requirements Verification Matrix

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-268	3.2.1.1.0-1	(U) The CPG **shall** operate as part of a JLENS system (SuS or FCS) on prepared land sites as defined in Reference [19], section titled *Glossary*.	A
CPG-269	3.2.1.1.0-2	**b(3)**	A
CPG-270	3.2.1.1.0-3	(U) The CPG **shall** support stand-alone operation for a Surveillance System or a Fire Control System, where stand-alone means that there need not be a complementary FCS or SuS.	T
CPG-271	3.2.1.1.0-4	(U) The CPG **shall** execute operations automatically using Mission Planning and Mission Profile parameters in the following areas: a. (U) maintain track data from multiple sources b. (U) process category and platform (specific type) data c. (U) process identification data d. (U) prioritize and request IFF challenging e. (U) associate IFF returns to system tracks f. (U) establish and update track priorities g. (U) report tracks h. (U) engagement support for remote weapons i. (U) assess operational health of the CPG, Platform, and associated radar j. (U) record tactical data	T
CPG-281	3.2.1.1.0-5	(U) The CPG **shall** alert the operator when interventions are required for automatic operations in the following areas: a. (U) category, platform type or specific type data differences with external systems b. (U) identification data differences with external systems c. (U) priority engagement support actions	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		d. (U) radar and communication b(3) [redacted] e. (U) data recording space availability f. (U) operational health failures	
CPG-2343	3.2.1.1.0-6	(U) The CPG **shall** have probability of data transfer from air to ground as defined in Appendix B.	A
CPG-2344	3.2.1.1.0-7	(U) The CPG **shall** have probability of transfer of track data within an Orbit as defined in Appendix B.	A
CPG-2345	3.2.1.1.0-8	b(3) [redacted]	T
CPG-2417	3.2.1.1.0-9	b(3) [redacted]	T
CPG-288	3.2.1.1.0-10	b(3) [redacted]	A
CPG-290	3.2.1.2.0-1	(U) The CPG **shall** initialize (power-up) into a safe state.	D
CPG-291	3.2.1.2.0-2	(U) The CPG, upon power application, **shall** automatically initialize components to a point where they can accept configuration commands.	D
CPG-292	3.2.1.2.0-3	(U) Upon completed boot up, the CPG **shall** display an indication that boot up is complete along with indications of CPG processing elements faults that occurred during b(3) [redacted]	D
CPG-293	3.2.1.2.0-4	(U) The CPG **shall** provide an access control mechanism for operator login.	D
CPG-294	3.2.1.2.0-5	(U) The CPG **shall** enable login to support the following roles: a. (U) operator including planning, system health monitor, and radar management b. (U) administrator c. (U) maintainer	D
CPG-298	3.2.1.2.0-6	(U) The CPG **shall** enable operator actions based on operator type.	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-299	3.2.1.2.0-7	(U) The CPG **shall** enable operator actions based on the system configuration (SuS or FCS).	D
CPG-300	3.2.1.2.0-8	(U) The CPG **shall** configure itself consistent with the selected radar type.	T
CPG-301	3.2.1.2.0-9	(U) The CPG **shall** maintain default system configuration parameters.	I
CPG-302	3.2.1.2.0-10	(U) The CPG **shall** conduct a controlled shutdown of the system upon operator initiation.	D
CPG-303	3.2.1.2.0-11	(U) The CPG **shall** provide for a safe system shutdown, whether operator initiated or automatic.	D
CPG-305	3.2.1.3.0-2	(U) The CPG **shall** collect, prepare, process, and analyze mission and operational planning data; build mission plans; and analyze coverage to conduct its assigned mission using rules defined by the directing C2 node. The results of these activities are used to build the details of mission profiles used to manage the associated radar.	D, A
CPG-2671	3.2.1.3.0-3	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve Mission Planning data to support JLENS operations in the absence of connectivity with HEU(FO) **b(3)**	T
CPG-306	3.2.1.3.0-4	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve at least **b(3)** Mission Planning data to include the following: a. (U) mission designation/identification b. (U) airspace control measures (ACMs) c. (U) weapon control volumes (WCVs) d. (U) defended assets with priority e. (U) air defense elements with needed search coverage f. (U) areas of interest (AOI) g. (U) IFF mode selections and challenge controls h. (U) track category priorities in support of the mission i. (U) known hostile specific types j. (U) known friendly specific types k. (U) known neutral specific types	T
CPG-318	3.2.1.3.0-5	(U) The CPG **shall** enable the operator to review received	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-318	3.2.1.3.0-5	messages, generate messages, transmit messages, save messages, and retrieve messages exchanged with the Higher Echelon (Force Operations) (HE(FO)) in formats in accordance with Reference [13]. This exchange supports the transfer of planning data to HE(FO).	
CPG-319	3.2.1.3.0-6	(U) The CPG **shall** display notification upon receipt of new or updated operational orders of the following types: a. (U) Air Tasking Order (ATO) b. (U) Airspace Control Order (ACO) c. (U) Tactical Operations Data (TACOPDAT) d. (U) Battlefield Geometry e. (U) Operations Plan and/or Order Change (PLANORDCHG) f. (U) Order Message (ORDER)	T
CPG-326	3.2.1.3.0-7	(U) The CPG **shall** display notification upon receipt of new or updated operational planning data containing the following data elements: a. (U) Operational Plan b. (U) Air Defense Plan (ADP) c. (U) Defended Asset List (DAL) d. (U) Planning Periods e. (U) Prioritized DAL (PDAL) f. (U) Defense Designs g. (U) Defensive Tasks h. (U) Resources i. (U) Assets j. (U) Threats k. (U) Units l. (U) Validations	T
CPG-339	3.2.1.3.0-8	(U) The CPG **shall** alert the operator upon receipt of: a. (U) Enemy Situational Awareness (ENSIT) b. (U) Operational Tasking Data Links (OPTASKLINK) c. (U) Commander's Situation Report (SITREP) d. (U) Request for Information (RI)	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		e. (U) Response to Request for Information (RRI) f. (U) Tactical Report (TACREP)	
CPG-346	3.2.1.3.0-9	(U) The CPG **shall** enable the operator to select and load received operational planning data and orders required for the JLENS mission into the Mission Planning database.	T
CPG-348	3.2.1.3.0-10	(U) The CPG **shall** provide computer and network equipment to host software for use to perform military administrative, personnel, and logistics functions. This computer equipment can be in addition to processing required for JLENS operations.	I
CPG-349	3.2.1.3.0-11	(U) The CPG **shall** perform terrain-based coverage analysis [redacted] **b(3)**	T
CPG-350	3.2.1.3.0-12	(U) The CPG coverage analysis **shall** enable the operator to assess communication visibility based on terrain and relative antenna height above ground level.	T
CPG-351	3.2.1.3.0-13	(U) The CPG radar coverage analysis **shall** enable the operator to assess areas of coverage considering the following: a. (U) Terrain [redacted] **b(3)** b. (U) Radar type and planned altitude c. (U) System is operating standalone or as part of an orbit supporting the same mission (FCS only) d. [redacted] **b(3)** e. (U) Multiple track altitudes f. (U) Radar field of view adjusted for planned sectors with radiation state and range g. (U) Overlap with engagement zones of supported weapons	T
CPG-2617	3.2.1.3.0-14	(U) The CPG **shall** ensure that the SuR surveillance sectors: a. (U) Do not overlap b. (U) Have uniquely assigned priorities	T, A
CPG-359	3.2.1.3.0-15	(U) The CPG **shall** provide the displays and controls necessary to accept and display military weather data.	D
CPG-360	3.2.1.3.0-17	(U) The CPG **shall** provide the interface to allow the operator to create mission profiles.	D
CPG-2609	3.2.1.3.0-17.0-1	(U) The CPG **shall** provide the interface to allow the operator to retrieve stored mission profiles.	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-2608	3.2.1.3.0-18	(U) The CPG **shall** provide the interface to allow the operator to save mission profiles.	D
CPG-2607	3.2.1.3.0-19	(U) The CPG **shall** provide the interface to allow the operator to edit mission profiles.	D
CPG-2643	3.2.1.3.0-20	(U) The CPG **shall** provide storage and access b(3) mission profiles.	D
CPG-372	3.2.1.4.1.0-1	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve communications equipment configuration parameters to include the following: a. (U) MIDS radio Load File b. (U) GPS Setup c. (U) External Systems IP Addressing d. (U) CEC e. (U) TOCNET f. (U) Voice Radio g. (U) JRE SATCOM h. b(3)	D
CPG-376	3.2.1.4.1.0-2	(U) The CPG **shall** enable the operator to implement communication controls to include the following: a. (U) Link 16 Enable/Disable and designate associated load file b. (U) JRE Enable/Disable c. (U) CEC Enable/Disable d. (U) ABCS Enable/Disable e. (U) ABCS Track Reporting Enable/Disable f. (U) IBS Enable/Disable and designate associated load file g. (U) Secure Internet Protocol Router Network (SIPRNET) Enable/Disable h. (U) Non-Classified Internet Protocol Router Network (NIPRNET) Enable/Disable	T
CPG-384	3.2.1.4.1.0-3	(U) The CPG **shall** enable the operator to command Emission Control (EMCON) for each of the organic GFE radios within b(3) Voice communications are shut down by the operator consistent with the scope of the EMCON decision.	T
CPG-385	3.2.1.4.1.0-4	(U) The CPG **shall** provide operator controls to establish track reporting filters for Link-16 to include the following	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity	
CPG-2493	3.2.1.4.1.0-5	(U) The CPG **shall** provide operator controls to establish track reporting filters for JRE to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity	D
CPG-2494	3.2.1.4.1.0-6	(U) The CPG **shall** provide operator controls to establish track reporting filters for IBS to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity	D
CPG-2496	3.2.1.4.1.0-7	(U) The CPG **shall** provide operator controls to establish track reporting filters for HE(FO) (ABCS) to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity	D
CPG-391	3.2.1.4.1.0-8	(U) The CPG **shall** load communications equipment with selected configuration parameters upon operator command.	T
CPG-392	3.2.1.4.1.0-9	(U) The CPG **shall** enable the operator to direct the United States Message Text Format/Extensible Markup Language (USMTF/XML), SIPRNET Application, and Non-Classified Internet Protocol Router Network (NIPRNET) Application messages to the external connections. This is to support multiple-paths of the mission-supplied Military Satellite Communications (MILSATCOM) and/or terrestrial communications. MILSATCOM includes Ultra High Frequency (UHF), Super High Frequency (SHF), and Extreme High Frequency (EHF) Communications. Terrestrial communications include Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) and landlines.	T
CPG-393	3.2.1.4.1.0-10	(U) The CPG **shall** enable the operator to direct JREAP messages to onboard SATCOM and to external connections. External connections support multiple-paths of the mission-supplied MILSATCOM and/or terrestrial communications.	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		MILSATCOM includes UHF, SHF, and EHF communications. Terrestrial communications include IP-based radios and landlines.	
CPG-395	3.2.1.4.2.0-1	b(3)	D
CPG-396	3.2.1.4.2.0-2	b(3)	D
CPG-397	3.2.1.4.2.0-3	b(3)	D
CPG-2469	3.2.1.4.2.0-4	b(3) a. b(3) b. b(3) c. b(3) d. b(3) b(3)	D
CPG-398	3.2.1.4.2.0-5	b(3)	A
CPG-2586	3.2.1.5.1.0-1	(U) The CPG **shall** forward mission profile updates to the radar only when the radar is in an operational state.	T
CPG-403	3.2.1.5.1.0-2	(U) The CPG **shall** send a selected mission profile within b(3) to the radar upon operator command.	T
CPG-404	3.2.1.5.1.0-3	(U) The CPG **shall** provide an indication when the associated radar is safe to radiate.	T
CPG-405	3.2.1.5.1.0-4	(U) The CPG **shall** provide an indication when the associated radar has reached the last commanded state.	T
CPG-406	3.2.1.5.1.0-5	(U) The CPG **shall** require two or more unique, sequential operator actions to initiate safety critical functions for the associated radar.	D
CPG-407	3.2.1.5.1.0-6	(U) The CPG **shall** enable the operator to command the radar to transition between radar states.	T
CPG-408	3.2.1.5.1.0-7	(U) The CPG **shall** command selectable EMCON controls to the associated radar within b(3)	T
CPG-410	3.2.1.5.1.0-8	(U) The CPG **shall** alert the operator if both the associated	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		radar transponder and the Platform transponder are enabled.	
CPG-2395	3.2.1.5.1.0-9	(U) The CPG **shall** alert the operator if neither the associated radar transponder nor the Platform transponder is enabled.	T
CPG-413	3.2.1.5.1.0-10	b(3)	T
CPG-414	3.2.1.5.1.0-11	b(3)	D
CPG-417	3.2.1.5.2.0-1	(U) The SuS CPG **shall** enable the operator to command incremental reduction of peak radiated power in azimuth sectors.	T
CPG-2684	3.2.1.5.2.0-2	(U) The SuS CPG **shall** provide controls to enable the operator to prevent radiation in specified azimuth sector.	T
CPG-419	3.2.1.5.3.0-1	(U) The FCS CPG **shall** manage radar tasking to ensure that the operating limits for the reported available radar resources are not exceeded based on the following considerations: a. (U) nominal percentage usage schedule based on available resources; b. (U) ability to task for limited periods of time above the nominal; and c. (U) account for recovery periods after overtasking	T
CPG-423	3.2.1.5.3.0-2	(U) The FCS CPG **shall** rebuild the radar task schedule in response to an operator action. The rebuilt schedule will account for the operator commanded action, previously commanded on-going actions, and current engagement support plans.	T
CPG-2587	3.2.1.5.3.0-3	(U) The FCS CPG **shall** command the radar to provide track update b(3)	T, A
CPG-428	3.2.1.5.3.0-4	(U) The FCS CPG **shall** enable the operator to view an overlay showing the current FCR azimuth field of view on the situation display.	D
CPG-429	3.2.1.5.3.0-5	(U) The FCS CPG **shall** enable the operator to assess a proposed pointing adjustment by providing indications that include: a. (U) the projected time to slew b. (U) projected new area of coverage	T
CPG-434	3.2.1.5.3.0-6	(U) The FCS CPG **shall** recommend to the operator when an FCR pointing adjustment is necessary to address the cases of a) the radar hitting physical rotation limit, and b) aerostat motion prevents the radar from keeping PTL. The CPG	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		operator will take an action that balances current activities with the need to keep the FCR supporting the mission.	
CPG-435	3.2.1.5.3.0-7	(U) The FCS CPG **shall** enable the operator to command an azimuth slew to the FCR.	T
CPG-2646	3.2.1.5.3.0-8	(U) The FCS CPG **shall** require a separate operator override to perform a slew that conflicts with an engagement support plan.	T
CPG-436	3.2.1.5.3.0-9	(U) The FCS CPG **shall** display the progress of a commanded azimuth slew.	T
CPG-437	3.2.1.5.3.0-10	(U) The FCS CPG **shall** provide the interface to allow the operator to assess the current orientation of the coverage area of the FCR with regard to supporting assigned missions. The orientation assessment should consider the following items: a. (U) Azimuth offset from planned azimuth primary threat line and sector bounds b. (U) Elevation offset from planned elevation center line c. (U) Radar field of view	T
CPG-441	3.2.1.5.3.0-11	(U) The FCS CPG **shall** manage radar tasks in accordance with the CPG assigned priorities.	T
CPG-442	3.2.1.5.3.0-12	(U) The FCS CPG **shall** provide tasking commands to the radar.	T
CPG-445	3.2.1.6.1.0-1	[redacted] b(3)	T
CPG-2399	3.2.1.6.1.0-2	(U) The CPG **shall** automatically initiate system tracks on local tracks which do not correlate to existing system tracks.	T
CPG-446	3.2.1.6.1.0-3	(U) The CPG **shall** maintain the following on a per-track basis, if available: a. (U) position and velocity b. (U) time associated with track validity c. (U) covariance data d. (U) identification e. (U) correlated IFF responses f. (U) air space interaction data g. [redacted] b(3) h. (U) correlated track numbers	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		i. (U) track history, including position, identity, category, platform, and specific type information j. (U) LPEs for TBMs and LCRs k. (U) simulated track indicator	
CPG-2434	3.2.1.6.1.0-4	(U) The CPG **shall** maintain the level of precision for track data as provided by the track source.	T
CPG-459	3.2.1.6.1.0-5	(U) The CPG **shall** maintain the position and velocity in system coordinates based on the World Geodetic Survey (WGS)-84 earth model.	D
CPG-2552	3.2.1.6.1.0-6	(U) The CPG **shall** geodetically align the associated radar data using the location of self reporting units.	T
CPG-2553	3.2.1.6.1.0-7	(U) The CPG **shall** align the external system track data from a. (U) CEC b. (U) Link-16 c. (U) JRE to the geodetically aligned radar track data.	T
CPG-463	3.2.1.6.1.0-8	(U) The CPG **shall** purge a source track from the database and reconstitute the platform type, specific type, and identification data of the remaining correlated source tracks when a drop track message is received or a track is no longer updated by the source.	T
CPG-465	3.2.1.6.2.0-1	(U) The CPG **shall** correlate and decorrelate the following in order to contribute to the Single Integrated Air Picture (SIAP): a. (U) local tracks with Link-16/JRE tracks in accordance with Reference [2]; b. **b(3)** c. (U) local tracks with CEC tracks	T
CPG-469	3.2.1.6.2.0-2	(U) The CPG, upon correlation events, **shall** assess the platform type, specific type, and identification data of source tracks in a manner consistent with rules of the corresponding external links.	T
CPG-470	3.2.1.6.2.0-3	(U) The CPG, upon decorrelation events, **shall** reconstitute the platform type, specific type, and identification data of the source tracks.	T
CPG-471	3.2.1.6.2.0-4	(U) The CPG **shall** support modification of correlation threshold parameters as defined in Reference [2].	D
CPG-2478	3.2.1.7.0-1	**b(3)**	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b(3) b(3) b(3) b(3) b(3) b(3) b(3) b(3)	
CPG-2400	3.2.1.7.0-2	b(3)	T
CPG-473	3.2.1.7.0-3	(U) The CPG **shall** exchange platform, platform activity, specific type, and identification indicators on Link-16/JRE in accordance with Reference [1]. Reference [2] provides details on Link-16 messaging.	T
CPG-2647	3.2.1.7.0-4	b(3)	T
CPG-474	3.2.1.7.0-5	(U) The CPG **shall** display an alert indicating a difference in track category between external and local sources that requires operator intervention.	T
CPG-475	3.2.1.7.0-6	(U) The CPG **shall** enable the operator to change the category, platform and/or specific type of a track.	D
CPG-2615	3.2.1.7.0-7	(U) The CPG **shall** exchange only unambiguous air specific types, as defined in Reference [1], to external links.	T
CPG-2614	3.2.1.7.0-8	(U) The CPG **shall** exchange only unambiguous air platform, as defined in Reference [1], to external links.	T
CPG-2652	3.2.1.8.1.0-1	(U) The CPG **shall** evaluate a local ID against the external data link ID to determine the CPG recommended reportable identification.	T
CPG-479	3.2.1.8.1.0-2	(U) The CPG **shall** utilize the following identifications for local recommendations and exchanges with external systems: a. (U) Pending b. (U) Assumed Friend	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		c. (U) Friend d. (U) Unknown e. (U) Suspect f. (U) Hostile g. (U) Neutral	
CPG-487	3.2.1.8.1.0-3	(U) The CPG **shall** recommend an air track as a Friend based on the received Precise Participant Location and Identification (PPLI) correlated with the track.	T
CPG-2650	3.2.1.8.1.0-4	(U) The CPG **shall** recommend an air track as a Friend based on the received Mode 5 IFF correlated with the track in accordance with Reference [2].	T
CPG-488	3.2.1.8.1.0-5	(U) The CPG **shall** enable the operator to set the identification of an air track.	D
CPG-489	3.2.1.8.1.0-6	(U) The CPG **shall** recommend a local identification of a track, excluding Pending, factoring the input from the following identification sources: a. (U) Change Data Order in effect b. (U) Operator identification selection c. (U) PPLI correlation d. (U) IFF Mode 5 e. (U) Procedural Identification f. (U) Order of battle correlation	T
CPG-2470	3.2.1.8.1.0-7	(U) The CPG **shall** allow the operator to enable/disable the air space interaction and order of battle methods for determining track identification.	D
CPG-495	3.2.1.8.1.0-8	(U) [redacted] **b(3)** the FCS CPG **shall** establish an Order of Battle (OOB) identification.	T
CPG-496	3.2.1.8.1.0-9	(U) The CPG **shall** exchange identification information with Link-16/JRE and set identification in accordance with Reference [1]. This includes the use of the ID Difference Resolution Table and Track Management Messages for ID Differences and Change Data Orders detailed in Reference [2].	T
CPG-2649	3.2.1.8.1.0-10	(U) The CPG **shall** exchange [redacted] **b(3)** with IBS in accordance with Reference [1] and set identification in accordance with Reference [2].	T
CPG-2648	3.2.1.8.1.0-11	(U) The CPG **shall** exchange [redacted] **b(3)** with CEC in accordance with Reference [1] and set identification in accordance with Reference [2].	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-497	3.2.1.8.1.0-12	(U) The CPG **shall** display an identification conflict alert if indicated by the ID Difference Resolution Table described in Reference [1] for tracks exchanged on Link-16/JRE.	T
CPG-498	3.2.1.8.1.0-13	(U) The CPG **shall** display an alert indicating a difference in identification between external sources and a local air track that requires operator intervention. b(3) [redacted]	T
CPG-500	3.2.1.8.2.0-1	(U) The CPG **shall** correlate the system tracks with received valid local IFF responses.	T
CPG-501	3.2.1.8.2.0-2	(U) If an unambiguous correlation has been made between a system track and a local IFF response, the CPG **shall** update the system track data with received valid IFF responses.	T
CPG-502	3.2.1.8.2.0-3	(U) The CPG **shall** provide an indication when an ambiguous correlation has been determined for an IFF response received from the local radar. Ambiguous correlations occur when more than one track can be associated to a single IFF response, when more than one IFF response can be correlated to a single track or when no tracks correlate to the IFF response.	T
CPG-503	3.2.1.8.2.0-4	(U) The CPG **shall** exchange only unambiguous local IFF data with external units.	T
CPG-504	3.2.1.8.2.0-5	(U) The CPG **shall** provide the interface to allow the operator to request an IFF action by mode(s) on a selected track.	T
CPG-505	3.2.1.8.2.0-6	(U) The CPG **shall** automatically provide IFF interrogation requests to the local radar based on the following: a. (U) Air Tracks that do not have an IFF unambiguous response b. (U) Air track is within the IFF On Line c. (U) IFF Modes are enabled and operating for the radar including Modes 1, 2, 3A, 3C, 4, and 5. d. (U) Age of the current unambiguous IFF response (local or external) is greater than an operator-selectable threshold based on mode e. (U) Age of the current ambiguous IFF response (local or external) b(3) [redacted] f. (U) IFF request prioritization	T
CPG-512	3.2.1.8.2.0-7	(U) The CPG **shall** alert the operator when a Mode 4 response of Valid or Mode 5 IFF response b(3) [redacted]	T
CPG-514	3.2.1.8.3.0-1	(U) The CPG **shall** continuously assess the procedural	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		identification for an air track using the following sources of information: a. (U) interaction with active ACMs within the ID Authority Area (IDAA) (including volumes, corridors, and safe velocity) b. (U) interaction with active origins (friendly, hostile) c. (U) responses to IFF/Selective Identification Feature (SIF) d. (U) operator-selected weights and identity thresholds	
CPG-519	3.2.1.8.3.0-2	(U) The CPG **shall** assess an air track's indicators to support a local Procedural Identification using the following: 1. (U) Weight sets for volume membership a. (U) Friendly Origin (FO) b. (U) Hostile Origin (HO) c. (U) Prohibited Volume (PV) d. (U) Restricted Volume (RV) e. (U) Safe passage Corridor (SPC) 2. (U) Weight set for Velocity test a. (U) Safe Velocity (SV) 3. (U) Weight sets for IFF Challenges a. (U) Interrogate Friend or Foe Mode 4 (IFF M4) b. (U) IFF Selective Identification Features (SIF)	D
CPG-2651	3.2.1.8.3.0-3	(U) The CPG **shall** maintain multiple weight sets and ID thresholds to support Procedural Identification assessment.	D
CPG-2641	3.2.1.8.3.0-4	(U) The CPG **shall** compare the summed weights with the maintained thresholds in order to support a Procedural Identification.	D
CPG-520	3.2.1.8.3.0-5	(U) The CPG **shall** enable the operator to select weight sets and thresholds and define the IDAA to support identification information development on tracks.	D
CPG-2549	3.2.1.9.0-1	**b(3)** **b(3)** **b(3)**	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		c. b(3) b(3) d. b(3)	
CPG-523	3.2.1.9.0-2	b(3)	T
CPG-524	3.2.1.9.0-3	b(3) a. b(3) b. c. d.	T
CPG-529	3.2.1.9.0-4	(U) The CPG **shall** assess and re-order track priority on a per track basis b(3)	T
CPG-530	3.2.1.9.0-5	b(3)	T
CPG-532	3.2.1.10.0-1	(U) The CPG **shall** report only tracks maintained by the associated radar. This prevents the system from forwarding data that may adversely affect the track picture at distant ends.	T
CPG-533	3.2.1.10.0-2	b(3)	T
CPG-534	3.2.1.10.0-3	(U) The CPG **shall** exchange ABT data with the CEC network in accordance with Reference [1].	T
CPG-535	3.2.1.10.0-4	b(3)	T
CPG-536	3.2.1.10.0-5	(U) The CPG **shall** exchange ABT, TBM, LCR, and SMT data with Link-16/JRE in accordance with Reference [1] and based on enabled track filters. Reference [2] provides details on Link-16 messaging.	T
CPG-537	3.2.1.10.0-6	b(3)	T
CPG-2653	3.2.1.10.0-7	b(3)	T
CPG-538	3.2.1.10.0-8	b(3)	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-2654	3.2.1.10.0-9	b(3)	T
CPG-539	3.2.1.10.0-10	b(3)	T
CPG-540	3.2.1.10.0-11	(U) The CPG **shall** notify external units when a local track is dropped.	T
CPG-2402	3.2.1.10.0-12	(U) The CPG **shall** have latency for precision tracks as defined in Appendix B.	T
CPG-2403	3.2.1.10.0-13	(U) The CPG **shall** have latency for surveillance tracks as defined in Appendix B.	T
CPG-542	3.2.1.11.0-1	(U) The CPG **shall** provide a situation display of the integrated track picture including tracks and reference points.	D
CPG-2497	3.2.1.11.0-2	(U) The CPG **shall** provide a situation display of the integrated track picture to include displays or controls for: a. (U) track amplification data; b. (U) track history (i.e., trails, flight path, and point of origin); and c. (U) situational awareness tools, such as measurement references and pointers.	D
CPG-547	3.2.1.11.0-3	(U) The CPG **shall** enable three mission operators to display and simultaneously interact with the CPG tactical software via three operator workstations and a central display.	D
CPG-2476	3.2.1.11.0-4	(U) The CPG **shall** provide an indication on the situational display of the current training state during training operations.	T
CPG-548	3.2.1.11.0-5	(U) The CPG **shall** provide an indication on the situational display of the radiation state of the associated radar.	T
CPG-549	3.2.1.11.0-6	(U) The CPG **shall** display an integrated track picture b(3) of the following types: a. (U) air/space tracks b. (U) surface/land tracks c. (U) launch point estimates d. (U) reference point tracks	T
CPG-2475	3.2.1.11.0-7	(U) The CPG **shall** differentiate the display of Embedded Trainer tracks (simulated) from non-simulated tracks in accordance with Reference [11].	T
CPG-554	3.2.1.11.0-8	b(3)	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-555	3.2.1.11.0-9	b(3) a. b(3) b. b(3) c. b(3) d. b(3) e. b(3) f. b(3)	T
CPG-562	3.2.1.11.0-10	(U) The CPG **shall** enable the operator to filter the display of the simulated track symbol modifier.	T
CPG-563	3.2.1.11.0-11	(U) The CPG **shall** enable the operator to display correlated track numbers with their track symbol.	T
CPG-564	3.2.1.11.0-12	(U) The CPG **shall** enable the operator to display trails for all tracks and/or a subset of tracks using the selected trail length.	T
CPG-565	3.2.1.11.0-13	(U) The CPG **shall** enable the operator to select a trail display length for all tracks b(3)	T
CPG-566	3.2.1.11.0-14	(U) The CPG **shall** enable the operator to display b(3) of a track's path.	D
CPG-567	3.2.1.11.0-15	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include source track number mappings of correlated tracks.	T
CPG-2645	3.2.1.11.0-16	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track identification and supporting data, including recommended ID.	T
CPG-2644	3.2.1.11.0-17	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track category, specific type, and platform type as well as supporting data.	T
CPG-2498	3.2.1.11.0-18	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include contributing sources to CEC tracks.	T
CPG-2499	3.2.1.11.0-19	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track which is determined by threat priority data, including threatened asset and time to asset.	T
CPG-573	3.2.1.11.0-20	(U) The CPG **shall** enable the operator to query selectable display objects for attribute data.	D
CPG-574	3.2.1.11.0-21	(U) The CPG **shall** have a measurement reference (e.g., range rings, ruler, grid toggle) for items on the situational display.	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-575	3.2.1.11.0-22	(U) The CPG **shall** enable the operator to initiate a pointer exchange, including text, with external systems on Link-16/JRE.	T
CPG-576	3.2.1.11.0-23	(U) The CPG **shall** enable the operator to display and clear pointers received from external systems on Link-16/JRE.	T
CPG-577	3.2.1.11.0-24	The CPG **shall** provide an interface to allow the operator to selectively display: a. (U) radiation control sectors with corresponding radiation state, b. (U) radar field of view, c. (U) search regions of interest, d. (U) supported weapon systems engagement coverage, e. (U) initialization data, and f. (U) system status information.	D
CPG-582	3.2.1.11.0-25	(U) The CPG **shall** enable the operator to display the relative track priority list.	T
CPG-583	3.2.1.11.0-26	(U) The FCS CPG **shall** enable the operator to display an indication on the tracks for which engagement support is being provided by the FCR.	T
CPG-584	3.2.1.11.0-27	(U) The FCS CPG **shall** alert the operator when high priority tracks or tracks under engagement support will potentially exit the FCR track coverage.	T
CPG-585	3.2.1.11.0-28	(U) The FCS CPG **shall** display a list of currently supported engagements with engagement support plan data upon operator command.	T
CPG-2451	3.2.1.11.0-29	(U) The FCS CPG **shall** display and update the projected target flight path for the engagement timeline for targets that are planned for engagement support and targets that a supported engagement is ongoing.	T
CPG-586	3.2.1.11.0-30	(U) The FCS CPG **shall** provide the interface to allow the operator to designate a target for acquisition by the FCR.	D
CPG-587	3.2.1.11.0-31	(U) The CPG **shall** enable the operator to designate tracks to be dropped by the associated radar.	D
CPG-2674	3.2.1.12.0-2	(U) Upon receipt of an Investigate, Shadow, and/or Precision Cue command from Link-16/JRE HEU(EO) for a track within the FOV of the radar, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the command is not associated with a local track.	T
CPG-617	3.2.1.12.0-3	(U) The FCS CPG **shall** reject Shadow commands from the Link-16/JRE HEU(EO) with a Cannot Process indication	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] b(3) [redacted] e. (U) track in the command is a ground or surface track.	
CPG-2677	3.2.1.12.0-4	(U) The FCS CPG **shall** allow the operator to accept or reject a Shadow, Investigate and/or Precision Cue command if the following apply: a. (U) the command was not automatically rejected [redacted] b(3) b. (U) auto accept is disabled.	T
CPG-2676	3.2.1.12.0-5	(U) The FCS CPG **shall** automatically accept Shadow, Investigate, and/or Precision Cue commands if the following apply: a. (U) the command was not automatically rejected [redacted] b(3) b. (U) auto accept is enabled.	T
CPG-2675	3.2.1.12.0-6	(U) The FCS CPG **shall** reject Investigate commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be [redacted] b(3) e. (U) track in the command is a ground or surface track f. (U) radar resources are fully utilized with tasks of higher priority.	T
CPG-622	3.2.1.12.0-7	(U) The FCS CPG **shall** allow the operator to enable/disable the automatic acceptance of Link-16/JRE HEU(EO) Shadow,	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		Investigate, and/or Precision Cue commands.	
CPG-623	3.2.1.12.0-8	(U) The FCS CPG **shall** indicate to the operator if the Link-16/JRE HEU(EO) Shadow or Investigate command is for a track that is outside the current field of view of the FCR. The operator has the responsibility to request FCR pointing adjustments.	T
CPG-624	3.2.1.12.0-9	(U) Upon acceptance of the Shadow command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to the Link-16/JRE HEU(EO), and b. (U) set the track priority within the CPG Designated priority level.	T
CPG-628	3.2.1.12.0-10	(U) The CPG **shall** alert the operator if the Shadow, Investigate, and/or Precision Cue command was automatically rejected.	T
CPG-629	3.2.1.12.0-11	(U) Upon acceptance of the Investigate command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to the Link-16/JRE HEU(EO), b. (U) set the track priority in the CPG-Designated priority level, c. (U) command FCR to [redacted] the track, and d. (U) command IFF interrogation on the track.	T
CPG-2483	3.2.1.12.0-12	(U) Upon acceptance of a Cease Engage command, for a Shadow and/or Investigate function, the FCS CPG **shall** perform the following: a. (U) cancel [redacted] with the radar, b. (U) modify the track priority based on the prioritization logic, and c. (U) re-order the CPG [redacted] queues.	T
CPG-635	3.2.1.12.0-13	(U) Upon rejection of a command from Link-16/JRE HEU(EO), the FCS CPG **shall** report that it Cannot Comply to the Link-16/JRE HEU(EO).	T
CPG-2673	3.2.1.12.0-14	(U) Upon acceptance of a Precision Cue command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to Link-16	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b. (U) set the track priority to Precision Cue within CPG Designated priority level.	
CPG-2672	3.2.1.12.0-15	(U) The FCS CPG **shall** automatically reject Precision Cue commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] b(3) e. (U) track in the command is a ground or surface track f. [redacted] b(3) g. [redacted] b(3)	T
CPG-590	3.2.1.13.1.0-1	(U) The FCS CPG **shall** provide engagement support coordination between external weapons systems and the FCR to include assessments of weapon system requests; assessment of radar and communication resources; accounting for track priorities; and responding to the weapon system.	A
CPG-2404	3.2.1.13.1.0-2	(U) The CPG **shall** have an engagement support interface to Link-16. Note: The interface is specified in Appendix B.	T
CPG-591	3.2.1.13.1.0-3	(U) The CPG **shall** have an engagement support interface to CEC defined in accordance with Reference [31].	T
CPG-592	3.2.1.13.1.0-4	(U) The CPG **shall** determine whether it can support the requested engagement [redacted] b(3)	T
CPG-2655	3.2.1.13.1.0-5	(U) Upon receipt of a request for engagement support, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the request is not maintained in the local track database and if the track is in the field of view of the FCR.	T
CPG-593	3.2.1.13.1.0-6	(U) If the cued acquisition of a non-locally held track does not result in a local track within the time period, in accordance with Reference [2a], the FCS CPG **shall** reject the engagement support request.	T
CPG-594	3.2.1.13.1.0-7	(U) The FCS CPG **shall** automatically determine the ability to support individual engagements based on received engagement support requests. The ability to support	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		engagements considers the following for the engagement timeline identified: a. (U) the track will remain in FCR coverage b. b(3) [redacted] c. (U) the accuracy of the track is sufficient for the weapon system request d. b(3) [redacted]	
CPG-599	3.2.1.13.1.0-8	(U) Once the ability to support an engagement has been established, the FCS CPG **shall** automatically accept the request.	T
CPG-600	3.2.1.13.1.0-9	(U) The FCS CPG **shall** alert the operator and reject an engagement support request if the request cannot be supported by the FCR or communication resources and the requested track is of equal or lower priority than currently scheduled engagements.	T
CPG-2599	3.2.1.13.1.0-10	(U) The FCS CPG **shall** prioritize on-going engagements over future scheduled engagements. On-going engagements will not be pre-empted unless otherwise directed.	T, A
CPG-601	3.2.1.13.1.0-11	(U) The FCS CPG **shall** provide an engagement support recommendation and alternatives when an engagement support request cannot be supported by the FCR or communication resources.	T
CPG-608	3.2.1.13.1.0-13	(U) The FCS CPG **shall** provide b(3) [redacted] for the operator to select from the engagement support recommendation and the alternatives.	T
CPG-609	3.2.1.13.1.0-14	(U) The FCS CPG **shall** perform the tasks corresponding to the operator accepted course of action or the timed out recommendation, whichever occurs first.	T
CPG-610	3.2.1.13.1.0-15	(U) The FCS CPG **shall** initiate a termination of engagement support for currently supported lower priority targets that were pre-empted by the acceptance of a higher-priority engagement.	T
CPG-611	3.2.1.13.1.0-16	(U) The FCS CPG **shall** send an acceptance offer b(3) [redacted] for engagement support requests b(3) [redacted] that the FCS will support. The acceptance offer will include the timeline that will be supported by the FCS.	T
CPG-637	3.2.1.13.2.0-1	(U) The CPG **shall** build an Engagement Support Plan for a received acceptance from a weapon system of an engagement support offer to include the following:	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		a. (U) projected interceptor launch time b. (U) target track number c. (U) data rates needed d. (U) time changes for data rates e. (U) acquisition and track of interceptor required	
CPG-643	3.2.1.13.2.0-2	(U) The FCS CPG **shall** perform multiple simultaneous Engagement Support Plans [redacted] **b(3)**	T
CPG-644	3.2.1.13.2.0-3	(U) The CPG **shall** task the FCR to support each engagement according to the Engagement Support Plan.	T
CPG-646	3.2.1.13.2.0-4	(U) The CPG **shall** initiate an FCR cued acquisition of the interceptor using received state vectors in accordance with the Engagement Support Plan. The Engagement Support Plan includes whether or not interceptor tracking is necessary.	T
CPG-649	3.2.1.13.2.0-5	(U) The CPG **shall** transmit target information to the network according to the Engagement Support Plan.	T
CPG-650	3.2.1.13.2.0-6	(U) The CPG **shall** provide interceptor track data to the engaging weapons system according to the Engagement Support Plan.	T
CPG-2657	3.2.1.13.3.0-1	(U) The CPG **shall** automatically terminate engagement support a. (U) upon end of contract with the weapon system, b. (U) upon weapon system notification to terminate contract, or c. (U) of the lowest priority scheduled, but not on-going engagement, upon acceptance of an on-going engagement contract extension, [redacted] **b(3)**	T
CPG-652	3.2.1.13.3.0-2	(U) The CPG **shall** allow the operator to select an engagement and manually terminate support for the engagement.	T
CPG-653	3.2.1.13.3.0-3	(U) The CPG **shall** command the radar to pre-engagement priority and cancel [redacted] **b(3)** on a track due to the termination of engagement support of a target.	T
CPG-654	3.2.1.13.3.0-4	(U) The CPG **shall** notify supported weapons systems when it must terminate engagement support.	T
CPG-2658	3.2.1.13.3.0-5	(U) The CPG **shall** notify the operator upon termination of engagement support.	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-656	3.2.1.14.0-1	(U) The CPG **shall** provide the functionality to allow at least three operators to simultaneously display and control the content detail level of the operational health status and operating condition information.	D
CPG-657	3.2.1.14.0-2	(U) The CPG **shall** collect, assess, and display operational health as reported by the associated Platform and the associated radar.	T
CPG-658	3.2.1.14.0-3	(U) The CPG **shall** collect, assess, and display operational health for the CPG to include the following: a. (U) processors b. (U) consoles c. (U) local area network backbone and routers d. (U) storage media e. (U) data communications radios f. (U) peripherals	D
CPG-665	3.2.1.14.0-4	(U) The CPG **shall** collect, assess, and display summary-level operational health and operating condition for the System and associated prime items.	T
CPG-666	3.2.1.14.0-5	(U) The CPG assessment of operational health **shall** result in one of the following determinations: a. (U) Item is Off or has been disabled, b. (U) No statement due to incomplete or invalid information, c. (U) Item is on and fully Operational, d. (U) Item is on and is Degraded due to loss of capabilities, but can support mission or e. (U) Item is Failed and cannot support the mission. (U) Note: Items include ABCS, MIDS, CEC, **b(3)** MBMMRs, HF radio, the associated radar, and the associated platform.	T
CPG-672	3.2.1.14.0-6	(U) The CPG assessments of operating condition **shall** result in one of the following determinations: a. (U) Item is Off or has been disabled, b. (U) Item is Initializing, c. (U) Item has been initialized and is Configuring, d. (U) Item has been configured and in	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		Standby-Ready (i.e., Configuration Mode), but is Ready to become operational (Standby-Ready), or e. (U) Item has been commanded into Operation (i.e., Tactical Mode) and is executing the mission. (U) Note: Items include MIDS, CEC **b3** MBMMRs, HF radio, the associated radar, and the associated platform.	
CPG-678	3.2.1.14.0-7	(U) The CPG **shall** collect and display the applicable system external data link status for the following data links: a. (U) Link-16 b. (U) JRE c. (U) CEC d. (U) IBS e. (U) HE(FO) **b(3)** f. (U) GPS	T
CPG-685	3.2.1.14.0-8	(U) The CPG **shall** collect and display the applicable CPG internal link status of Off, Active, Degraded, or Failed for the following links: a. (U) MIDS LVT-2 in the CP b. (U) MBMMR Serial Link for JRE c. (U) CEP d. **b(3)** e. (U) LAN GPS f. (U) SIPRNET g. (U) NIPRNET	T
CPG-691	3.2.1.14.0-9	(U) The CPG **shall** collect and display the CPG data link status of Off, Active, or Failed for the following data links: a. (U) Associated Radar SDP b. (U) MMS/Aerostat/Flight Director (FD) c. (U) Power Conversion and Distribution System (PCDS)	T
CPG-696	3.2.1.14.0-10	(U) The CPG **shall** alert the operator to a change in the operational health and operating condition of the System and Prime Items.	T
CPG-697	3.2.1.14.0-11	(U) The CPG **shall** alert the operator to changes in internal and external link status.	T
CPG-698	3.2.1.14.0-12	(U) The CPG **shall** report the operational health and operating condition of the System to ABCS in accordance	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		with Reference [1].	
CPG-2490	3.2.1.14.0-13	(U) The CPG **shall** report the operational health and operating condition of the System to Link-16 in accordance with Reference [1].	T
CPG-2491	3.2.1.14.0-14	(U) The CPG **shall** report the operational health and operating condition of the System to JRE in accordance with Reference [1].	T
CPG-2492	3.2.1.14.0-15	(U) The CPG **shall** report the operational health and operating condition of the System to CEP in accordance with Reference [1].	T
CPG-2670	3.2.1.14.0-16	(U) The CPG **shall** report the operational health and operating condition of the System to IBS in accordance with Reference [1].	T
CPG-2685	3.2.1.14.0-17	(U) The CPG **shall** enable the operator to access radar system hardware configuration data.	T
CPG-700	3.2.1.15.0-1	(U) The CPG **shall** automatically record, **b(3)** [redacted] a set of data to include the following: a. (U) system operational health and operational condition b. (U) track data including supporting data for measurements, covariance, category, platform, specific type, and identification c. (U) engagement support actions d. (U) operator interventions and commands e. (U) enacted Mission Plans f. (U) enacted Mission Profiles g. (U) IFF responses with position h. (U) CPG operational health data and faults detected i. (U) messages to and from the associated radar j. (U) messages to and from the associated platform k. (U) security and authentication logs l. (U) prognostics reports (U) Note: These items cannot be disabled by the operator.	A
CPG-2681	3.2.1.15.0-2	(U) The CPG **shall** automatically record a set of data to include the following:	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		a. (U) initialization parameters b. (U) changed parameters c. (U) operator interventions and commands d. (U) external link message traffic for Link-16, and CEC e. (U) track data including supporting data for measurements, covariance, category, platform, specific type, and identification f. (U) status g. (U) CID-related products (received from the radar) h. (U) organic weather data (U) Note: These items cannot be disabled by the operator.	
CPG-2396	3.2.1.15.0-3	(U) The CPG **shall** automatically record [redacted] **b(3)** [redacted] the weather data from the local Platform weather equipment.	T
CPG-716	3.2.1.15.0-4	(U) The CPG **shall** display an alert when CPG data recording media changes are needed.	D
CPG-2473	3.2.1.15.0-5	(U) The CPG **shall** display an alert when radar data recording media changes are needed.	D
CPG-717	3.2.1.15.0-6	(U) The CPG **shall** display an alert if CPG data recording stops or is not running.	D
CPG-2474	3.2.1.15.0-7	(U) The CPG **shall** display an alert if radar data recording stops or is not running.	D
CPG-2471	3.2.1.15.0-8	(U) The CPG **shall** have controls for CPG data recording functions.	D
CPG-2472	3.2.1.15.0-9	(U) The CPG **shall** have controls for radar data recording functions.	D
CPG-718	3.2.1.15.0-10	(U) The CPG **shall** enable the operator to select from the following additional data recording items: a. (U) external link message traffic for HE(FO) b. (U) external link message traffic for IBS.	D
CPG-727	3.2.1.15.0-11	(U) The CPG **shall** time stamp data as it is being recorded.	T
CPG-728	3.2.1.15.0-12	(U) The CPG **shall** store classified and unclassified data on independent systems.	D
CPG-2412	3.2.1.15.0-13	(U) The CPG **shall** provide selective data retrieval, report formatting, and report generation via an interactive operator	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		interface.	
CPG-2413	3.2.1.15.0-14	(U) The CPG **shall** provide recorded data archival via an interactive operator interface for post mission analysis.	D
CPG-2612	3.2.1.15.0-15	(U) The CPG **shall** store the faults detected either in non-volatile memory or on removable data storage media.	D, I
CPG-2611	3.2.1.15.0-16	(U) The CPG **shall** continuously record: a. (U) intercom communications, b. (U) tactical voice communications, and c. (U) CCS voice communications for [redacted] b(3)	T, A
CPG-2610	3.2.1.15.0-17	(U) The CPG **shall** provide a selective voice playback capability through operator workstations.	D
CPG-2660	3.2.1.15.0-18	(U) The CPG **shall** allow a qualified operator to: a. (U) select the recorded voice communications to archive b. (U) select the recorded voice communications to playback.	T
CPG-2659	3.2.1.15.0-19	(U) The CPG **shall** selectively archive [redacted] b(3) of recorded voice communications to removable media.	T
CPG-732	3.2.1.16.1.0-1	(U) The CPG **shall** enable the operator to transition between tactical operations and training operations.	D
CPG-733	3.2.1.16.1.0-2	(U) The CPG **shall** enable the operator to select the following training modes: a. (U) **Standalone** - one or more operators participating in a simulated exercise b. (U) **Netted** - system participating in a simulated exercise within an orbit and/or with external systems [redacted] b(3) c. (U) **Individual** - operator-interactive tutorial modules.	D
CPG-734	3.2.1.16.1.0-3	(U) The CPG **shall** provide embedded standalone and netted proficiency training for operator tasks utilizing simulated tracks.	D
CPG-735	3.2.1.16.1.0-4	(U) The CPG **shall** generate simulated track inputs, consistent with the selected radar type, upon operator request.	D
CPG-736	3.2.1.16.1.0-5	(U) The CPG training simulations and simulators **shall** be Distributed Interactive Simulation (DIS)/High Level Architecture (HLA) compliant.	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-737	3.2.1.16.1.0-6	(U) The CPG **shall** provide the functionality to allow the operator to implement communication controls for the DIS/HLA interface as an alternate source of simulated truth tracks for the radar models.	T
CPG-739	3.2.1.16.1.0-7	(U) The CPG embedded training **shall** operate on the tactical hardware and operate with the tactical software.	D
CPG-740	3.2.1.16.1.0-8	(U) The CPG **shall** provide hardware and an internet browser to access government Web-based training sites.	I
CPG-741	3.2.1.16.1.0-9	(U) The CPG **shall** have embedded trainers and simulators which are written in a standard language and have a modular design in order to allow for hardware and software growth potential.	I
CPG-2477	3.2.1.16.1.0-10	(U) The CPG Embedded Trainer processing resources **shall** be isolated from tactical operational software.	A
CPG-742	3.2.1.16.1.0-11	(U) The CPG **shall** enable the operator to access installed interactive electronic technical manuals (IETMs).	D
CPG-2397	3.2.1.16.1.0-12	(U) The CPG **shall** enable the operator to access installed computer based training (CBT).	D
CPG-2678	3.2.1.16.1.0-13	(U) The CPG **shall** enable the operator to exit Embedded Training operations and switch to live operations with a single action.	D
CPG-2683	3.2.1.16.1.0-14	(U) The CPG **shall,** under operator control, record mission operator GUI actions during embedded tactical training sessions.	D
CPG-2682	3.2.1.16.1.0-15	(U) The CPG **shall,** under operator control, provide playback of recorded embedded tactical training sessions.	D
CPG-744	3.2.1.16.2.0-1	(U) The CPG **shall** continue tactical operations while allowing one or more operators to participate in sim-over-live standalone training.	T
CPG-745	3.2.1.16.2.0-2	(U) The CPG **shall** suppress transmission of simulated tracks on external networks that were generated by standalone training.	T
CPG-746	3.2.1.16.2.0-3	(U) The CPG embedded training **shall** have simulated problem situations that replicate those expected to be encountered in actual mission operations.	D
CPG-2679	3.2.1.16.2.0-3.0-1	(U) In the standalone sim-over-live mode, CPG **shall** a. (U) enable each operator to select whether to interact with the live or simulated radar (Note: The simulated radar uses the same mission profile as the live radar. A mission profile is controlled by the live radar.) b. (U) enable each operator to select to view	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		sim-only, live only, or both sim and live data, c. (U) ensure that at least one operator select live only or sim and live data, d. (U) from the operators who satisfy (c), ensure that at least one operator select to interact with the live radar, e. (U) if no operator selects the simulated radar, the simulated radar is slaved to the live radar f. (U) prevent an operator viewing sim-only to interact with live comms or the live radar, and f. (U) provide an indication of the radar type with which the operator is interacting.	
CPG-748	3.2.1.16.3.0-1	(U) The CPG **shall** provide netted training that interacts within the orbit and/or with external systems based on a coordinated scenario.	T
CPG-749	3.2.1.16.3.0-2	(U) The CPG **shall** exchange simulated tracks on networks, internal or external, designated to participate in the netted exercise.	T
CPG-750	3.2.1.16.3.0-3	(U) The CPG **shall** be interoperable through the Joint Semi-Automated Forces (JSAF) architecture by transmitting and receiving DIS and HLA formatted data to link the live, virtual, and constructive pieces of the training arena.	T
CPG-2662	3.2.1.16.3.0-4	(U) The CPG **shall** support sim-only and sim-over- live training exercises while in netted training.	T
CPG-752	3.2.1.16.4.0-1	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve training scenarios.	D
CPG-2642	3.2.1.16.4.0-1.0-1	(U) The CPG **shall** have storage and access for not less than 20 training scenarios.	T
CPG-753	3.2.1.16.4.0-2	(U) The CPG **shall** enable the operator or maintainer to select, initiate, and stop training sessions.	D
CPG-755	3.2.1.17.0-1	(U) Newly developed software for any CPG subsystem **shall** use track symbology consistent with Reference [12] and all other symbology consistent with Reference [11].	I
CPG-756	3.2.1.17.0-2	(U) The CPG **shall** adjust Reference [11] symbol size (i.e., display objects) to account for zooming.	D
CPG-757	3.2.1.17.0-3	b(3) a. b(3) b. b(3)	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b(3) c. b(3)	
CPG-761	3.2.1.17.0-4	(U) The CPG **shall** provide a GUI containing a classified reserved alert display area at each operator position.	D
CPG-762	3.2.1.17.0-5	(U) The CPG **shall** use the guidance of Reference [10], section titled *Audio Displays* for production of audio signals. The audio signals are to direct the user's attention to the appropriate visual display which warns personnel of impending danger, alerts personnel to a critical change in system or equipment status, and/or reminds personnel of a critical action or actions that must be taken.	I
CPG-763	3.2.1.17.0-6	(U) The CPG software **shall** provide safety critical alerts that are distinct from routine alerts.	T
CPG-764	3.2.1.17.0-7	(U) The CPG **shall** display a hazardous condition alert until acknowledged by the operator or until the hazardous condition has been terminated. Hazardous conditions may be reported by the CPG or other Prime Items.	T
CPG-765	3.2.1.17.0-8	(U) The CPG **shall** alert the operator to the receipt of the following warning messages from HE(FO) or HEU(EO): a. (U) Air Defense Warning b. (U) NBC Warning c. (U) TBM Warning d. (U) Threat Warning Message	T
CPG-770	3.2.1.17.0-9	(U) The CPG **shall** enable the operator to selectively display the following overlay items: a. (U) Primary Threat Line (PTL) b. (U) Defended Assets c. (U) Air defense resources d. (U) Prohibited and Restricted Volumes e. (U) Safe Passage Corridors f. (U) Friendly and Hostile Origins g. (U) Weapon Control Volumes h. (U) General Lines and Points	D
CPG-779	3.2.1.17.0-10	(U) The CPG **shall** include operator controls which allow displaying tracks b(3)	D
CPG-781	3.2.1.18.0-1	(U) The CPG **shall** perform consistency checking of the mission planning and mission profile data entered by the operator. Note: Consistency checking validates the mission	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		planning and mission profile data are consistent with prescribed directives.	
CPG-783	3.2.1.18.1.0-1	(U) The CPG **shall** enable the operator to compose, send, receive, review and save computer assisted electronic text-formatted messages on the classified and unclassified networks.	D
CPG-2663	3.2.1.18.1.0-2	(U) The CPG **shall** support tactical chat capability b(3)	D
CPG-784	3.2.1.18.1.0-3	(U) The CPG **shall** provide browsing capability on NIPRNET b(3)	D
CPG-786	3.2.1.18.2.0-1	(U) The CPG **shall** configure the Black LAN upon operator request.	D
CPG-787	3.2.1.18.2.0-2	(U) The CPG **shall** configure the Red LAN upon operator request.	D
CPG-789	3.2.1.18.3.0-1	(U) The CPG **shall** display user information to the system administrator.	D
CPG-790	3.2.1.18.3.0-2	(U) The CPG **shall** provide the capability to assign operator workstation functions automatically based on the user profile.	D
CPG-791	3.2.1.18.3.0-3	(U) The CPG **shall** enable the system administrator to perform network diagnostics.	D
CPG-792	3.2.1.18.3.0-4	(U) The CPG **shall** enable the system administrator to add, configure, and delete software.	D
CPG-793	3.2.1.18.3.0-5	(U) The CPG **shall** enable the system administrator to monitor computer performance.	D
CPG-794	3.2.1.18.3.0-6	(U) The CPG **shall** enable the system administrator to backup and restore files.	D
CPG-795	3.2.1.18.3.0-7	(U) The CPG **shall** enable the system administrator to add and delete system users.	D
CPG-796	3.2.1.18.3.0-8	(U) The CPG **shall** enable the system administrator to configure user accounts to include access privileges and roles.	D
CPG-798	3.2.1.18.4.0-1	(U) The CPG **shall** synchronize to b(3)	D
CPG-799	3.2.1.18.4.0-2	(U) The CPG **shall** provide the time synchronization to communications equipment and processing resources in accordance with Reference [1].	T
CPG-800	3.2.1.18.4.0-3	(U) The CPG **shall** enable the operator to enter location and time. b(3)	D
CPG-801	3.2.1.18.4.0-4	(U) The CPG **shall** set CPG location coordinate data from GPS.	D
CPG-802	3.2.1.18.4.0-5	(U) The CPG GPS **shall** include b(3)	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b(3) GPS.	
CPG-805	3.2.1.18.5.0-1	(U) The CPG **shall** enable the operator to archive and retrieve computer assisted electronic messages, electronic mail, authentication and security logs, and local files in non-volatile memory or on removable data storage media.	D
CPG-806	3.2.1.18.5.0-2	(U) The CPG **shall** retain a log of archive actions.	D
CPG-808	3.2.1.18.6.0-1	b(3) a. b(3) b. b(3) c. b(3)	D
CPG-815	3.2.2.1.0-1	(U) The CPG software subsystems **shall** exchange data as defined by Reference [14].	T
CPG-2686	3.2.2.1.0-1.0-1	b(3)	T
CPG-817	3.2.2.2.0-1	(U) The CPG **shall** have a physical interface with the Platform in accordance with Reference [1].	T
CPG-2582	3.2.2.2.0-2	(U) The CPG **shall** exchange data with the Platform in accordance with Reference [1].	T
CPG-818	3.2.2.2.0-3	(U) The SuS CPG **shall** have a physical interface with the SuR in accordance with Reference [1].	T
CPG-2583	3.2.2.2.0-4	(U) The SuS CPG **shall** exchange data with the SuR in accordance with Reference [1].	T
CPG-819	3.2.2.2.0-5	(U) The FCS CPG **shall** have a physical interface with the FCR in accordance with Reference [1].	T
CPG-2584	3.2.2.2.0-6	(U) The FCS CPG **shall** exchange data with the FCR in accordance with Reference [1].	T
CPG-820	3.2.2.2.0-7	(U) The CPG **shall** exchange Link-16 messages in accordance with Reference [1]. Reference [2], Appendix W provides details on the Link-16 Minimum Implementation via an LVT-2 MIDS. The Minimum Implementation applies to PPLI, System Information Exchange and Network Management, Air Surveillance, Surface Surveillance, Land Surveillance, Space Surveillance, and Weapons Coordination and Management functions.	T
CPG-821	3.2.2.2.0-8	(U) The CPG **shall** interface with its HEU(EO) through JRE or Link-16 as designated for the mission.	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-822	3.2.2.2.0-9	(U) The CPG **shall** exchange JREAP messages in accordance with Reference [1]. Reference [2], Appendix W; and Reference [3], Appendices A and C provide detail on the Minimum Implementation that applies to PPLI, System Information Exchange and Network Management, Air Surveillance, Surface Surveillance, Land Surveillance, Space Surveillance, and Weapons Coordination and Management functions.	T
CPG-823	3.2.2.2.0-10	(U) The CPG **shall** direct JREAP messages to the shelter port or the on-board Multi-Band Multi-Mode Radio (MBMMR) PSC-5D.	T
CPG-824	3.2.2.2.0-11	(U) The CPG **shall** maintain communications with the Army Battle Command System (ABCS) via an interface to the b(3) b(3) located at ABCS entry point and an b(3) hosted at the CPG.	T
CPG-825	3.2.2.2.0-12	(U) The CPG **shall** exchange USMTF messages in accordance with Reference [1]. Reference [13] provides detail on exchange of USMTF for Higher Echelon Force Operations (HE(FO)) communications.	T
CPG-826	3.2.2.2.0-13	(U) The CPG **shall** at a minimum use the Integrated Air and Missile Defense (IAMD) XML Schema, Version 1.3 for local b(3) to HE(FO) b(3) communication.	T
CPG-827	3.2.2.2.0-14	(U) The CPG **shall** host a Cooperative Engagement Processor (CEP) to interface to the CEC.	I
CPG-828	3.2.2.2.0-15	(U) The CPG **shall** exchange data in CMF in accordance with Reference [1]. Reference [4] provides detail on communication over IBS via the b(3)	T
CPG-829	3.2.2.2.0-16	(U) The CPG **shall** access time and position data from the Space Segement (SS) of the Global Positioning System (GPS) in accordance with Reference [1].	T
CPG-830	3.2.2.2.0-17	(U) The CPG **shall** participate as a non-forwarding unit on CEC, Link-16, JRE, IBS, and ABCS simultaneously. A non-forwarding unit is one that only provides locally developed status and tracks that are maintained by the associated radar. Data from one data link is not directly transferred to the other data links.	T
CPG-831	3.2.2.2.0-18	(U) The CPG **shall** have connectivity for Secure Internet Protocol Router Network (SIPRNET) access.	T
CPG-832	3.2.2.2.0-19	(U) The CPG **shall** have connectivity for Defense Information Systems Network (DISN) Non-Classified Internet Protocol Router Network (NIPRNET) access.	T
CPG-833	3.2.2.2.0-20	(U) The CPG shelter **shall** have Internet Protocol (IP) connectivity for JREAP, USMTF/XML, SIPRNET Applications, and NIPRNET Applications to support external	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		connections to mission-supplied MILSATCOM and/or terrestrial communications. MILSATCOM includes Ultra High Frequency (UHF), Super High Frequency (SHF), and Extreme High Frequency (EHF) communications. Terrestrial communications include Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) and landlines.	
CPG-834	3.2.2.2.0-21	(U) The CPG **shall** have no fewer than eight (8) IP connections to support: a. (U) DIS/HLA in accordance with Reference [1] b. (U) Red LAN access c. (U) Black LAN access	T
CPG-839	3.2.2.3.0-1	(U) The CPG **shall** provide tactical and non-tactical voice communications interfaces to the Defense Switched Network (DSN), the Public Switched Telephone Network (PSTN), and the Integrated Services Digital Network (ISDN) in accordance with Reference [1].	T
CPG-840	3.2.2.3.0-2	(U) The CPG **shall** provide secure non-tactical voice communications over commercial networks.	T
CPG-841	3.2.2.3.0-3	(U) The CPG **shall** have a UHF SATCOM interface for voice communications.	T
CPG-842	3.2.2.3.0-4	(U) The CPG **shall** have voice communications systems that interface to military tactical telephone systems including Secure Telephone Units (STUs) or Secure Terminal Equipment (STE).	T
CPG-843	3.2.2.3.0-5	(U) The CPG **shall** enable internal and external tactical voice communications via the following: a. VHF Combat Net Radio (using SINCGARS waveform) b. Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) c. SATCOM terminal d. HF radio e. UHF radio	T
CPG-849	3.2.2.3.0-6	(U) The CPG UHF radios **shall** have HAVEQUICK Electronic Counter-Countermeasure (ECCM) capability.	I
CPG-851	3.2.2.3.0-7	(U) The CPG **shall** enable the operator to monitor simultaneously two voice communication networks.	T

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-852	3.2.2.3.0-8	(U) The CPG **shall** enable each operator to access and control voice communications at the operator position.	T
CPG-853	3.2.2.3.0-9	(U) The CPG **shall** provide two-way voice communication between the CPG shelters, the Platform Mobile Mooring Station (MMS), and the Deployable Power Generation and Distribution System (DPGDS).	D
CPG-856	3.2.3.1.0-1	(U) Each CPG shelter configured for movement **shall** weigh no more than 22,000 pounds.	T
CPG-857	3.2.3.1.0-2	(U) The CPG airborne equipment **shall** weigh no more than 1100 pounds packaged in two or more subsystems that can be distributed to allow for aerostat stability.	T
CPG-859	3.2.3.2.0-1	(U) The CPG **shall** have a power interface(s) with the radar ground equipment in accordance with Reference [1].	T
CPG-860	3.2.3.2.0-2	(U) The CPG **shall** provide physical space and power distribution for all internally housed equipment that are not part of the CPG Prime Item.	I
CPG-861	3.2.3.2.0-3	(U) The CPG **shall** provide required prime power to the interfacing components external to the shelter.	I
CPG-862	3.2.3.2.0-4	(U) The CPG **shall** b(3) to power all of the equipment permanently or temporarily installed within the shelters.	T
CPG-863	3.2.3.2.0-5	(U) The CPG **shall** include Uninterruptible Power Sources (UPSs) to support orderly shutdown in the event that power is lost, so ground based processors can be restarted, preserving the integrity of the database.	D
CPG-864	3.2.3.2.0-6	(U) The CPG main power **shall** be switched by the CCS, DPS, and SPS main power switches.	D
CPG-865	3.2.3.2.0-7	(U) The CPG **shall** operate through minor power fluctuations within the design limits of the associated JLENS power supply specifications. i.e., Prevent inadvertent archiving or shutdown procedures.	T
CPG-866	3.2.3.2.0-8	b(3)	A
CPG-868	3.2.3.3.0-1	(U) The CPG shelters **shall** use 8' or 8.5' height, 8' width, and 20' length ISO containers.	I
CPG-2604	3.2.3.3.0-2	(U) The CPG, while in the Transport Mode, b(3) **shall** meet the Gabarit International de Chargement (GIC) equipment gauge rail outline for rail transport. . b(3)	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-869	3.2.3.3.0-3	(U) The CPG shelters **shall** house the operator stations, signal data processors, and communications equipment.	I
CPG-870	3.2.3.3.0-4	(U) The CPG **shall** have emergency indications and related controls using the guidance of Reference [10], section titled Emergency Use.	I
CPG-871	3.2.3.3.0-5	(U) The CPG **shall** have adjustable, ambient lighting with controls at the entrance to the shelters. Illumination is further described in Reference [22] and Reference [10], section titled *Illuminance.*	D
CPG-872	3.2.3.3.0-6	(U) The CPG **shall** have spacing of connectors and controls external to the shelters that is compatible with operation in cold weather/Mission Oriented Protective Posture (MOPP) IV protective clothing as specified in Reference [10], section titled *Spacing.*	A
CPG-873	3.2.3.3.0-7	**b(3)**	I
CPG-874	3.2.3.3.0-8	(U) The CPG **shall** have interchangeable Line Replaceable Units (LRUs) as specified in Reference [10], section titled Design for Maintainability.	I
CPG-875	3.2.3.3.0-9	(U) The CPG **shall** have signal entrance panel(s) at the shelter exterior to interface with tactical, non-tactical, and commercial telephone systems.	I
CPG-876	3.2.3.3.0-10	(U) The CPG **shall** host the Flight Director SW.	I
CPG-877	3.2.3.3.0-11	(U) The CPG **shall** host the Weather Instrumentation Subsystem SW.	I
CPG-878	3.2.3.3.0-12	**b(3)**	I
CPG-879	3.2.3.3.0-13	(U) The CPG **shall** provide classified print capability.	D
CPG-880	3.2.3.3.0-14	(U) The CPG **shall** provide unclassified print capability.	D
CPG-881	3.2.3.3.0-15	(U) The CPG **shall** provide non-secure facsimile capability.	D
CPG-882	3.2.3.3.0-16	(U) The CPG **shall** provide secure facsimile capability.	D
CPG-884	3.2.3.4.0-1	(U) The CPG **shall** display the temperature within all CPG shelters.	D
CPG-885	3.2.3.4.0-2	(U) The CPG **shall** provide occupant control of the temperature within the CPG shelters.	D
CPG-887	3.2.3.5.0-1	(U) The CPG **shall** provide a protected environment for all internally housed equipment that is not part of the CPG Prime Item.	I
CPG-897	3.2.4.1.0-1	**b(3)**	A

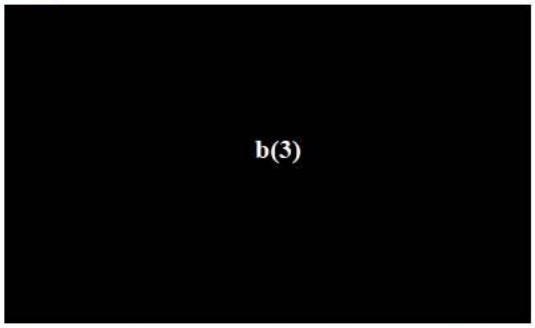
UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b(3)	
CPG-898	3.2.4.1.0-2	b(3)	A
CPG-899	3.2.4.1.0-3	(U) The CPG airborne equipment **shall** operate not less than 30 days without scheduled maintenance.	A
CPG-901	3.2.4.2.0-1	(U) The CPG **shall** enable the maintainer, through an integrated central control, to: a. (U) access maintenance information to include error detection, fault isolation, prime item operational health and diagnostics, CPG-level repair, logging, and prognostics b. (U) conduct maintenance actions to include diagnostics, b(3) initiate a repair action, initiate failover/recovery c. (U) access and display IETM material relevant to the component being assessed or selected maintenance action.	D
CPG-905	3.2.4.2.0-2	(U) The CPG **shall** maintain and record logs for maintenance events to include: a. b(3) b. (U) fault detections c. (U) fault isolation actions d. (U) repair actions taken and information e. (U) system operational health	I
CPG-911	3.2.4.2.0-3	(U) The CPG **shall** detect all mission critical failures using a combination of s b(3) and initiated	A
CPG-912	3.2.4.2.0-4	(U) The CPG **shall** enable the operator to access the system failover/recovery capabilities necessary to support mission critical functions.	A
CPG-913	3.2.4.2.0-5	(U) The CPG **shall** enable the operator to access and initiate radar maintenance functions.	T
CPG-914	3.2.4.2.0-6	(U) The CPG **shall** display results of operator initiated radar diagnostics.	D
CPG-916	3.2.4.3.0-1	(U) The CPG **shall** meet all operational performance requirements as described in this document, section titled *Performance Characteristics,* when the execution of b(3) is enabled.	T
CPG-917	3.2.4.3.0-2	(U) The CPG **shall** include b3 and monitoring functions as they exist in the GFE and Commercial Off-the-Shelf (COTS)	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		hardware.	
CPG-918	3.2.4.3.0-3	(U) The CPG **shall** enable execution of available b(3)	T
CPG-919	3.2.4.3.0-4	(U) The CPG airborne equipment **shall** b(3) report results when commanded.	D
CPG-920	3.2.4.3.0-5	(U) The CPG, prior to the execution of the b(3)	T
CPG-921	3.2.4.3.0-6	(U) The CPG **shall** alert the operator if a fault condition is b(3)	T
CPG-922	3.2.4.3.0-7	(U) The CPG **shall** continue to meet mission critical functions as described in this document, section titled *Performance Characteristics,* b(3)	D, A
CPG-923	3.2.4.3.0-8	b(3)	A
CPG-924	3.2.4.3.0-9	(U) The CPG **shall** enable the operator to initiate fault isolation diagnostics on CPG subsystems.	D
CPG-925	3.2.4.3.0-10	b(3)	A
CPG-927	3.2.4.4.0-1	b(3)	D, A
CPG-928	3.2.4.4.0-2	(U) The CPG **shall** be compatible with standard A b(3)	A
CPG-929	3.2.4.4.0-3	(U) The CPG **shall** be compatible with standard A b(3)	A
CPG-930	3.2.4.4.0-4	(U) CPG integrated maintenance **shall** require no more than a single data entry of repair action information.	D
CPG-932	3.2.4.5.0-1	(U) The CPG **shall** collect data that can be used for prognostics from the CPG, the associated Platform, and the associated radar.	T
CPG-933	3.2.4.5.0-2	b(3)	A
CPG-934	3.2.4.5.0-3	(U) The CPG **shall** alert the operator to impending faults and failures of components resulting from the predictions of the	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		prognostic functions.	
CPG-935	3.2.4.5.0-4	(U) The CPG **shall** enable the operator to display system prognostic data.	D
CPG-939	3.2.5.1.1.0-1	(U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors* [redacted] b(3) [redacted] Temperature as a function of altitude is provided in Reference [19], Appendix F.	A
CPG-940	3.2.5.1.1.0-2	(U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after [redacted] b(3) [redacted] configured for storage or transport, with the allowance of environmental kits and procedures for temperature extremes.	A
CPG-942	3.2.5.1.2.0-1	(U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, during exposure to a relative humidity range from 3% to 100% non-condensing.	A
CPG-943	3.2.5.1.2.0-2	(U) The CPG, in an appropriate operational mode, **shall** meet all performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure, while in the deployment, storage, or transport configurations, to a relative humidity range from 3% to 100% non-condensing.	A
CPG-945	3.2.5.1.3.0-1	[redacted] b(3) [redacted]	A
CPG-946	3.2.5.1.3.0-2	[redacted] b(3) [redacted]	A
CPG-948	3.2.5.1.4.0-1	(U) The CPG, excluding GFE, **shall** survive during exposure to hail [redacted] b(3) [redacted]	A
CPG-949	3.2.5.1.4.0-2	(U) While in the storage and transport configuration, the CPG **shall** be protected during exposure to hail [redacted] b(3) [redacted]	A
CPG-951	3.2.5.1.5.0-1	(U) The CPG, while in the Tactical state, **shall** meet all performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*,	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		during a snow falling rate of up to 1 inch/hour.	
CPG-952	3.2.5.1.5.0-2	(U) The CPG, while operational, **shall** meet all Performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, except sensor performance, to withstand a snow load of 48.9 kilograms per square meter (10 lb/ft2).	A
CPG-953	3.2.5.1.5.0-3	(U) The CPG, while in storage and transport configurations, **shall** withstand a snow load of 97.7 kilograms per square meter (20 lb/ft^2) as described in Reference [27].	A
CPG-955	3.2.5.1.6.0-1	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, when exposed to a salt atmosphere in sea locations and coastal regions. For information on salt atmospheres, see Reference [19] Appendix B.	A
CPG-956	3.2.5.1.6.0-2	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to a salt atmosphere in sea locations and coastal regions while in a non-operational mode.	A
CPG-957	3.2.5.1.6.0-3	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to a salt atmosphere during ocean transportation while in the transport configuration.	A
CPG-959	3.2.5.1.7.0-1	(U) The CPG, in the appropriate operational mode, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics* and *Subsystem Quality Factors,* (degraded sensor performance during operation is permitted) when exposed to blowing dust of [redacted] b(3)	A
CPG-960	3.2.5.1.7.0-2	(U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in this document, section titled *Performance Characteristics*, when surface equipment exposed to blowing sand [redacted] b(3)	A
CPG-961	3.2.5.1.7.0-3	(U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in this document, section titled *Performance Characteristics*, when airborne equipment exposed to blowing sand [redacted] b(3)	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b(3) Note: for the Tactical Mode, blowing sand does not reach operational altitude.	
CPG-962	3.2.5.1.7.0-4	(U) The CPG, after assembly into the appropriate operational mode, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics* and *Subsystem Quality Factors,* following exposure, while in the storage and transport configurations, to blowing dust b(3)	A
CPG-963	3.2.5.1.7.0-5	(U) The CPG, after assembly into the appropriate operational mode, **shall** meet performance in 3.2.1 of this document following exposure, while configured for storage or transport, to blowing sand b(3)	A
CPG-965	3.2.5.1.8.0-1	(U) The CPG **shall** be either composed of materials that inhibit the fungus growth or composed of materials which are protected from environments that would encourage fungus growth.	A
CPG-967	3.2.5.1.9.0-1	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, while being subjected to steady state winds b(3)	A
CPG-968	3.2.5.1.9.0-2	(U) The CPG, in any state, **shall** survive an exposure to the following steady state wind conditions: a. b(3) for airborne components b. b(3) for ground equipment	A
CPG-972	3.2.5.1.10.0-1	(U) The CPG ground based equipment **shall** be protected while operational, during movement, and during storage from direct and indirect lightning, including Lightning Electromagnetic Pulse (LEMP), in accordance with the lightning requirements of Reference [17]. Relevant sections of Reference [26] and Reference [107] can be used for guidance.	T, A
CPG-2482	3.2.5.1.10.0-2	(U) The CPG airborne equipment **shall** be protected while operational, during movement, and during storage from direct and indirect lightning b(3) including Lightning Electromagnetic Pulse (LEMP), in accordance with the lightning requirements of	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		Reference [17]. Relevant sections of Reference [26] and Reference [107] can be used for guidance.	
CPG-973	3.2.5.1.10.0-3	(U) Following a near lightning strike without equipment damage, the CPG **shall** return to the state, mode and stored configuration existing prior to the strike through a controlled restart.	T, A
CPG-976	3.2.5.2.1.0-1	(U) The CPG, while operational, **shall** meet performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, while being subjected to vibration levels caused by operation.	A
CPG-977	3.2.5.2.1.0-2	(U) The CPG, while operational, **shall** meet all performance requirements in 3.2.1 *Performance Characteristics* and 3.2.4 *Subsystem Quality Factors* following exposure to vibration levels caused by normal transportation, maintenance, or storage. Transportation includes air, ground (both road and **b(3)** , and sea.	A
CPG-979	3.2.5.2.2.0-1	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, applicable to that operational mode, while being subjected to shock levels caused during normal operation of that mode.	A
CPG-980	3.2.5.2.2.0-2	(U) The CPG LRUs **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after the LRUs are dropped, with drop height dependent on the LRU **b(3)**  **b(3)** while packaged in their transit containers according to the applicable documentation.	T
CPG-982	3.2.5.2.3.0-1	(U) After assembly into the appropriate operational configuration, the CPG fragile components **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors **b(3)** while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while the	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		CPG is in the transport configuration.	
CPG-2605	3.2.5.2.3.0-2	(U) After assembly into the appropriate operational configuration, the CPG non-fragile components **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, b(3) while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while CPG is in the transport configuration.	A
CPG-2551	3.2.5.2.3.0-3	(U) After assembly into the appropriate operational configuration, the CPG **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors b(3) , while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while CPG is in the transport configuration.	A
CPG-984	3.2.5.2.4.0-1	(U) The CPG **shall** contain no electrically initiated devices (EID) or electro-explosive devices (EED).	I
CPG-987	3.2.5.2.5.0-1	(U) The CPG **shall** control unintentional emissions using Reference [16], Figure RE102-4 Army curve as guidance.	A
CPG-988	3.2.5.2.5.0-2	(U) The CPG ground equipment **shall** meet all performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors* while protecting against spurious electromagnetic interference from other systems using Reference [16], Table V, Ground Army, as a guide.	T, A
CPG-989	3.2.5.2.5.0-3	(U) Grounding and bonding on the CPG **shall** be implemented in accordance with the electrical bonding and external grounds requirements of Reference [17].	T
CPG-990	3.2.5.2.5.0-4	(U) The combination of shelter shielding and internal enclosures/shielded cables **shall** provide b(3) isolation from external electromagnetic radiation.	A
CPG-2414	3.2.5.2.5.0-5	(U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in 3.2.1 Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of intra-system radiated and conducted emissions.	A
CPG-2415	3.2.5.2.5.0-6	(U) The CPG airborne equipment, excluding the GPS, in the appropriate operational mode, **shall** meet performance requirements in 3.2.1 Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of spurious in-band electromagnetic interference using Reference [16] RS103 (RE102 + 20dB). GFE must be Reference [16] compliant.	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-2416	3.2.5.2.5.0-7	(U) The CPG airborne equipment, including the GPS, in the appropriate operational mode, **shall** meet performance requirements in 3.2. Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of spurious non-in-band electromagnetic interference b(3) . GFE must be compliant with Reference [16]. Reference [19] defines the set of in-band frequencies for antenna-connected equipment.	A
CPG-2405	3.2.5.2.6.0-1	b(3)	A
CPG-993	3.2.5.2.7.0-1	(U) The CPG LRUs, or equipment cabinets as appropriate, except for GFE, **shall** meet the performance requirements in this document, section titled *Performance Characteristics*. b(3) (U) Note: ESD discharges directly to connector pins are not included. This only includes ESD discharges to LRUs or equipment cabinets, as appropriate.	T
CPG-1005	3.2.5.2.9.2.0-1	(U) The CPG airborne enclosures, for the purpose of NBC protection, **shall** protect internal equipment from contamination caused by an NBC event as described in Reference [19], section titled *Nuclear, Biological, and Chemical, Definitions.*	A
CPG-1006	3.2.5.2.9.2.0-2	(U) All exterior surfaces of ground based equipment **shall** be painted with Chemical Agent Resistant Coating (CARC), in accordance with Reference [29], with exterior topcoat 383 Green (color 34094 of Fed-Std-595)..	I
CPG-2588	3.2.5.2.9.2.0-3	(U) All exterior surfaces of non-GFE Communications Payload airborne enclosures external to both the windscreen and the aerostat **shall** be painted with Chemical Agent Resistant Coating (CARC), in accordance with Reference [29], with exterior topcoat white (color 37875 of Fed-Std-595).	I
CPG-1007	3.2.5.2.9.2.0-4	(U) The CPG **shall** be able to withstand contamination/decontamination as described herein while in the movement configuration. Items packaged in NBC protective ISO containers are protected by the containers.	A
CPG-1008	3.2.5.2.9.2.0-5	(U) Transportation enclosures which are non-GFE and delivered as part of the CPG **shall** be able to withstand contamination/decontamination described herein such that it protects the equipment contained within the enclosure.	A
CPG-1009	3.2.5.2.9.2.0-6	b(3)	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		b(3) [redacted]	
CPG-1010	3.2.5.2.9.2.0-7	b(3) [redacted]	A
CPG-1011	3.2.5.2.9.2.0-8	(U) The CPG, after subjection to worst case chemical and biological contamination, as specified herein, **shall** be restorable to an operational condition such that use of MOPP IV need not be continued, after being decontaminated using JLENS-specific decontamination procedures.	A
CPG-1012	3.2.5.2.9.2.0-9	(U) The CPG **shall** meet all performance requirements in this document, section titled Performance Characteristics, during and following exposure to NBC contaminants while in the Tactical mode of the Operations state and in the operations configuration.	A
CPG-1013	3.2.5.2.9.2.0-10	(U) The displays and equipment on the exterior of the CPG shelters **shall** be compatible with NBC protection and permit performance of mission-essential operations, communications, maintenance, re-supply, and decontamination tasks by personnel wearing cold weather/MOPP IV protective clothing, as described in Reference [10], sections titled *Operational Environment* and *Use with Individual Protective Equipment.*	A
CPG-1014	3.2.5.2.9.2.0-11	(U) The CPG **shall** provide protection for personnel from the effects of NBC contamination, as described in Reference [19], section titled *Nuclear, Biological, and Chemical, Definitions,* by an Environmental Control System (ECS), equipped with an integrated Gas Particulate Filter Unit (GPFU) and through methodized use of an integral NBC protective entry vestibule in order to allow operation without MOPP IV gear during exposure.	A
CPG-1016	3.2.6.0-1	(U) All CPG equipment external to the CCS, DPS, and SPS, in transport configuration, **shall** be packed in 8' x 8' x 20' ISO containers. ISO container sizes which differ from 8' x 8' x 20' require approval by the JLENS Government Product Manager.	I
CPG-1018	3.2.6.1.0-1	b(3) [redacted]	A
CPG-1019	3.2.6.1.0-2	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, after exposure to Railroad Transportation Vibrations no greater than 0.488g rms in each of the three axes as illustrated in Figure 4.	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-1021	3.2.6.1.0-5	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after being subjected to rail impact static equivalent loads no greater than 5.0 g longitudinal, 3.0 g vertical and 3.0 g lateral, incurred while in the transport configuration. This requirement applies to attachment points and bracketry.	A
CPG-1023	3.2.6.2.0-1	(U) The CPG, in the transport configuration, **shall** be transportable off-road [redacted] **b(3)**	A
CPG-1024	3.2.6.2.0-2	(U) The CPG, in the transport configuration, **shall** be transportable on highways defined in Reference [20] including an allowance for special permits where the limits for load, vibration, and shock are presented in Reference [19] Appendix E.	A
CPG-1025	3.2.6.2.0-3	(U) The CPG, in the transport configuration, **shall** be transportable on secondary roads where the limits for load, vibration, and shock are presented in Reference [19] Appendix E.	A
CPG-1026	3.2.6.2.0-4	(U) The CPG, in the transport configuration, **shall** be transportable on unimproved roads where the limits for load, vibration, and shock are presented in Reference [19] Appendix E. Performance expected after transport on unimproved roads is represented by the Perry Cross-Country Course No. 1. For vibration spectra profile refer to Figure 5.	A
CPG-1029	3.2.6.3.0-1	(U) The CPG **shall** be marine transportable in accordance with Reference [20] section titled *Water Transportation (Load on / Load off),* where load limits and vibrations are presented in Reference [19] Appendix E.	A
CPG-1030	3.2.6.3.0-2	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to the Ship Transportation vibrations no greater than 0.315 g rms longitudinal, 0.315 g rms vertical, and 0.315 g rms lateral, incurred while in the transport configuration. For vibration spectra profile refer to Figure 6.	A
CPG-1033	3.2.6.4.0-1	(U) The CPG **shall** be transportable via C-130 (except ISOs or shelters which are greater than 8 foot by 8 foot by 20 foot, in any dimension), C-5, and C-17 aircraft. The shock and vibrations experienced during C-130, C-5, and C-17 aircraft transport are presented in Reference [19] Appendix E.	A
CPG-1034	3.2.6.4.0-2	(U) The CPG **shall** operate after exposure to the transportation vibration environment defined in Figures 7 and 8 [redacted] **b(3)**	A
CPG-1038	3.2.6.5.0-1	(U) The CPG equipment in transport configuration **shall** have lift and tie-down provisions in accordance with Reference [5].	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-1039	3.2.6.5.0-2	(U) Transportation enclosures which are non-GFE and delivered as part of the Orbit **shall** protect the equipment contained within the enclosure from damage due to: a. (U) Temperatures extremes, as needed b. (U) Snow c. (U) Rain d. (U) Hail e. (U) Wind f. (U) Blowing sand g. (U) Lightning h. b(3) i. (U) NBC as specified in section titled *Environmental Conditions* when in the transport configuration.	I
CPG-1050	3.2.6.5.0-4	(U) The CPG, in the transport configuration, **shall** meet the U.S. Department of Transportation (DOT), North Atlantic Treaty Organization (NATO), and European Union (EU) Performance-Oriented Packaging (POP) standards for unrestricted highway, rail, and sea transportation.	A
CPG-2606	3.2.6.5.0-5	(U) Each JLENS unique transportation fixture onto which fragile hardware is mounted **shall** be marked with special handling procedures using Reference [32] as guidance.	I
CPG-1055	3.3.1.2.0-1	(U) The CPG **shall** be designed such that components containing hazardous materials listed in the EPA-17 and Class I Ozone Depleting Substances are only utilized in compliance with the JLENS Hazardous Materials Management Plan (HMMP). Note: Reference [19] Appendix A contains the aforementioned lists.	A
CPG-1057	3.3.2.0-1	(U) The CPG **shall** have all equipments marked in accordance with Reference [7] for unique identification with the following provisos and exceptions. 1. (U) Provisos to this requirement are: a. (U) Only hardware and software items with a unit acquisition cost no less than $5,000. b. (U) All hardware items with a unit acquisition cost less than $5,000 when they are serially managed, mission critical, or controlled inventory items. 2. (U) Exceptions to this requirement are as specified in Reference [7] section titled Detailed Requirements subsection titled Exemptions:	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		a. (U) "COTS items marked with commercial identification (firm name, logo, part number, etc.), and which present no identification difficulty may be exempt from additional marking requirements. This exemption extends to COTS items identified on a VICD." b. (U) "Parts within an assembly or a sub-assembly, that are not subject to removal, replacement, or repair or" c. (U) "When parts are deemed too small for the application of complete marking in accordance with Reference [7] section titled *Machine-readable information (MRI) marking,* a logo or other abbreviated marking [will] be substituted for the design activity identification."	
CPG-1065	3.3.2.0-2	(U) The CPG **shall** have nameplates, labeling, and product marking in accordance with Reference [7].	I
CPG-1073	3.3.3.1.1.0-1	(U) The CPG **shall** comply with the applicable portions of Reference [9] *Guidelines on Personnel Hazards, Flammability, and Electrical Overload Protection.*	I
CPG-1074	3.3.3.1.1.0-2	(U) The CPG **shall** allow the system to perform a function which inherently increases Mishap Probability only if one of the following conditions is satisfied: a. (U) all relevant pre-requisite safety checks are passed prior to performing the potentially hazardous function, or b. (U) the safety checks have been explicitly overridden.	A
CPG-1077	3.3.3.1.1.0-3	(U) The CPG **shall** have emergency lighting capability upon power failure.	D
CPG-1078	3.3.3.1.1.0-4	(U) The CPG **shall** have a second egress capability.	I
CPG-1079	3.3.3.1.1.0-5	(U) The CPG **shall** have lift points that are clearly labeled.	I
CPG-1080	3.3.3.1.1.0-6	(U) The CPG **shall** have floor surfaces and stair and step trades that provide non-slip characteristics.	I
CPG-1081	3.3.3.1.1.0-7	(U) The CPG **shall** have a configuration that prevents equipment from tipping over or falling on personnel performing operations, maintenance, or training tasks.	I
CPG-1082	3.3.3.1.1.0-8	(U) The CPG **shall** use self sealing connectors for coolant lines to reduce the likelihood of coolant leakage during CPG operation and maintenance as appropriate.	I
CPG-1083	3.3.3.1.1.0-9	(U) The CPG **shall** have danger and caution signs, labels, tags, and markings to warn of specific voltages, current, thermal, or physical hazards including:	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		a. (U) Color code per Reference [100] b. (U) For potentials between 70 and 500 Volts, display "WARNING" sign and list maximum voltage c. (U) For potentials in excess of 500V, display the "DANGER" and "HIGH VOLTAGE" signs and list maximum voltage d. (U) Microwave of RF radiation warning signs, labels, or tags should be in accordance with Reference [102], Reference [103], or Reference [104].	
CPG-1088	3.3.3.1.1.0-10	(U) The CPG **shall** limit acoustic noise levels in accordance with Reference [21], *Steady-State Noise, Personnel Occupied Areas.* Hearing protection may be used to reduce the levels.	T
CPG-1089	3.3.3.1.1.0-11	(U) The CPG **shall** transition to a safe state upon completion of a hazardous condition.	D
CPG-1090	3.3.3.1.1.0-12	(U) If hardware safety interlocks are to be utilized by the CPG, the interlocks **shall** not be overridden by software.	A
CPG-1091	3.3.3.1.1.0-13	(U) The CPG interlocks **shall** be self-resetting.	D
CPG-1093	3.3.3.1.2.0-1	(U) The CPG **shall** have a means to reduce the voltage at test points to less than 300V if the potential to be measured is in excess of 300V peak.	T
CPG-1094	3.3.3.1.2.0-2	(U) The CPG assemblies which contain circuits operating at potentials in excess of 500V **shall** be completely enclosed with any access covers and plates equipped with non-bypassable interlocks that activate to shut down power.	I
CPG-1095	3.3.3.1.2.0-3	(U) The CPG **shall** have at least 3 barriers, to preclude accidental contact under all conditions of operation and maintenance, for all potentials between 30V and 500V.	I
CPG-1096	3.3.3.1.2.0-4	(U) The CPG high voltage circuits containing capacitors which store more than 0.25 joules **shall** have discharging devices unless they discharge to 30V or less within 2 seconds after power removal for maintenance purposes. Note: This does not apply to batteries.	A
CPG-1097	3.3.3.1.2.0-5	(U) The CPG **shall** have external conductive surfaces of equipment housing hazardous voltages grounded to a common static and safety ground point.	I
CPG-1098	3.3.3.1.2.0-6	(U) The CPG **shall** have catastrophic hazards mitigated by at least three barriers one of which must be a fail-safe device. Fail-safe device, barrier, and critical hazard are defined in Reference [28].	I
CPG-1099	3.3.3.1.2.0-7	(U) The CPG **shall** have critical hazards mitigated by at least two barriers, one of which must be a fail-safe device.	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-1100	3.3.3.1.2.0-8	(U) The CPG **shall** have visible markings for LRUs sensitive to Electrostatic Discharge (ESD).	I
CPG-1101	3.3.3.1.2.0-9	(U) The CPG **shall** prevent shorting of circuits carrying more than 25A. Appropriate means may include guards and warning labels.	I
CPG-1102	3.3.3.1.2.0-10	(U) The CPG **shall** have Ground Fault Circuit Interrupters (GFCI) for all external outlets.	I
CPG-1103	3.3.3.1.2.0-11	(U) External connectorized power sources (greater than 30V) provided by the CPG **shall** be either GFCI or interlocked. The order of precedence is: a. (U) Hardwired with metallic conduit or shielded cable with GFCI b. (U) GFCI if maximum threshold is more than 20mA c. (U) Fail-safe interlock	I
CPG-1107	3.3.3.1.2.0-12	(U) The CPG interlocks **shall** be fail-safe.	D
CPG-1108	3.3.3.1.2.0-13	(U) The CPG **shall** ensure that powered ends of connectors are protected from accidental contact.	I
CPG-1109	3.3.3.1.2.0-14	(U) The CPG equipment **shall** have exposed external metallic parts, surfaces, and shields, exclusive of antenna and transmission line terminals, at ground potential during normal operation as suggested in Reference [9], Guideline 1, *Ground.*	I
CPG-1110	3.3.3.1.2.0-15	(U) The CPG **shall** have a point on all electrically conductive chasses that will serve as the common tie point for static and safety grounds using Reference [9], *General Guidelines for Electronic Equipment,* Guideline 1, *Ground.*	I
CPG-1111	3.3.3.1.2.0-16	(U) The CPG equipment **shall** have connectors which preclude the mismating of cables in a manner which would cause malfunction, damage to equipment or hazard to personnel. Where design considerations require plug and receptacles of similar configuration in close proximity, the mating plugs and receptacles should be suitable coded or marked to clearly indicate the mating connectors.	I
CPG-1113	3.3.3.1.3.0-1	(U) The CPG **shall** have a combination of procedures, guards, and safety devices to preclude contact with moving mechanical parts such as gears, fans, and belts during operation and maintenance.	I
CPG-1114	3.3.3.1.3.0-2	(U) The CPG **shall** have an interlock which disables mechanical motion of the CPG ECS during maintenance.	I
CPG-1115	3.3.3.1.3.0-3	(U) The CPG equipment **shall** have door or hinged covers that are provided with stops to hold them open as appropriate.	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
CPG-1116	3.3.3.1.3.0-4	(U) The CPG **shall** have physical guards to prevent inadvertent exposure of personnel to surface temperatures outside the maximum/minimum (Reference [10], section titled *Thermal Contact Hazards Table XXI,* or less than 0 degrees Celsius) except for surface temperatures induced by climactic environment.	I
CPG-1118	3.3.3.1.4.0-1	(U) The CPG shelters **shall** have fire extinguishers, smoke alarms, and carbon monoxide detectors.	I
CPG-1119	3.3.3.1.4.0-2	(U) The CPG UPS batteries **shall** not vent flammable gas when a single failure occurs.	I
CPG-1121	3.3.3.1.5.0-1	(U) The CPG **shall** vent battery enclosures to prevent the buildup of flammable gas, as appropriate.	I
CPG-1122	3.3.3.1.5.0-2	(U) The CPG **shall** have no radioactive materials which are defined by the Nuclear Regulation Commission that have greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries.	I
CPG-1124	3.3.3.1.6.0-1	(U) The CPG **shall** have provisions to protect personnel and fuel against the hazards of electromagnetic radiation using Reference [106].	I
CPG-1126	3.3.3.1.7.0-1	(U) The CPG **shall** provide local emergency power shutdown capability at manned locations and shelters.	D
CPG-1128	3.3.3.2.0-1	(U) The CPG **shall** ensure that safety critical functions execute to completion, barring loss of power. Exiting a safety critical function gracefully can be considered executing to completion.	D
CPG-1129	3.3.3.2.0-2	(U) The CPG **shall** display an indication of the occurrence of an exception that terminates a CPG operational sequence containing a safety critical function.	D
CPG-1131	3.3.3.2.0-3	(U) The CPG **shall** validate the contents of software executables prior to execution and data files prior to use.	D
CPG-1132	3.3.3.2.0-4	(U) The CPG **shall** enable the operator to cancel a safety critical function or software function causing a hazardous condition with a single action. The single action may consist of pressing two keys, buttons, or switches simultaneously.	D
CPG-1133	3.3.3.2.0-5	(U) The CPG **shall** verify correct transfer of safety critical messages. Verification includes providing acknowledgements, performing cyclic redundancy checks, and checking message protocol formats.	A
CPG-1135	3.3.3.3.0-1	(U) The CPG **shall** have over temperature detection devices to mitigate overheating hazards that result in damage to the equipment over $1M.	A
CPG-1138	3.3.4.1.0-1	(U) The CPG **shall** have reach access for inserting, adjusting, and/or removing a unit or assembly as specified in Reference	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		[10], section titled *Physical Access.*	
CPG-1139	3.3.4.1.0-2	(U) The CPG replacement units, assemblies, and connectors **shall** meet the insertion, removal, and grip force requirement in Reference [10], section titled *Design for Maintainability.*	D
CPG-1140	3.3.4.1.0-3	(U) The CPG **shall** have visual access for corrective and preventative maintenance tasks as specified in Reference [10], section titled *Visual Access.*	I
CPG-1141	3.3.4.1.0-4	(U) The CPG **shall** have access openings and clearance dimensions for inserting, adjusting, and/or removing a unit or assembly as specified in Reference [10], section titled *Physical Access.*	D
CPG-1142	3.3.4.1.0-5	(U) The CPG units and assemblies **shall** be configured for removal, carry, and replacement as specified in Reference [10], section titled *Weight.*	D
CPG-1143	3.3.4.1.0-6	(U) The CPG **shall** have work areas and equipment that accommodate a soldier population that ranges in stature from the 5th percentile female to the 95th percentile male as specified in Reference [10], sections titled *Physical Accommodation and Workspace Design.*	A
CPG-1144	3.3.4.1.0-7	(U) The CPG **shall** have workstations, controls, indicators, and Graphical User Interfaces that are mounted for seated operations as specified in Reference [10], section titled *Seated Operations.*	A
CPG-1146	3.3.4.2.0-1	(U) The CPG **shall** provide a controlled environment that meets the temperature range, humidity range, and ventilation requirements, for operators and operation of all installed equipment within the CPG in accordance with Reference [10], sections titled *Heating, Air Conditioning, Humidity, and Ventilation.*	T
CPG-1148	3.3.4.3.0-1	(U) The CPG **shall** have human-to-machine interfaces with state-of-the-art computer and display technology, excluding GFE. This requirement does not apply to non-CPG items that the CPG houses such as the Flight Director Platform software and SDP.	I
CPG-1150	3.3.4.4.0-1	(U) The CPG **shall** have controls using the guidance of Reference [10], section titled *Controls.*	A
CPG-1151	3.3.4.4.0-2	(U) The CPG **shall** present alerts and rejects using the guidance of Reference [10], section titled *User-Computer Interface.*	D
CPG-1152	3.3.4.4.0-3	(U) The CPG **shall** present visual displays using the guidance of Reference [10], section titled *Visual Displays.*	D
CPG-1153	3.3.4.4.0-4	(U) The CPG **shall** have identifications, labels, legends, signs, and warnings using the guidance of Reference [10],	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		section titled *Labeling,* and Reference [103].	
CPG-1156	3.3.5.1.0-1	(U) The CPG **shall** use Approved Information Assurance (IA) products or IA-enabled products for all information system security functions. Approved products are those which have been evaluated by the NSA or in accordance with NSA-Approved processes.	I
CPG-2501	3.3.5.1.0-2	(U) The CPG **shall** incorporate the security principle of least privilege.	T, I
CPG-1169	3.3.5.1.0-3	(U) The CPG **shall** incorporate identification, authentication, and access controls.	T
CPG-2500	3.3.5.1.0-4	**b(3)**	I
CPG-2505	3.3.5.1.0-5	(U) The security support structure of the CPG **shall** be isolated. Means of isolation may include the use of partitions and/or domains that control access to and integrity of hardware, software, and firmware that perform security functions.	T, I
CPG-1161	3.3.5.2.0-1	**b(3)**	I
CPG-2585	3.3.5.2.0-2	**b(3)**	I
CPG-2507	3.3.5.2.0-3	**b(3)**	I
CPG-2589	3.3.5.2.0-4	**b(3)**	I
CPG-1162	3.3.5.2.0-5	**b(3)**	I
CPG-2577	3.3.5.2.0-6	(U) The CPG **Shall** deploy host-based intrusion detection	I

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		systems for medium or high risk operator-interactive applications, except where tactical system performance would be degraded or Army-approved solutions are not available.	
CPG-1172	3.3.5.2.0-7	b(3)	I
CPG-1164	3.3.5.2.0-8	(U) The CPG **shall** implement virus protection for all servers, workstations, and mobile computing devices.	T, I
CPG-1165	3.3.5.3.0-1	(U) The CPG **shall** incorporate boundary defense mechanisms. b(3)	I
CPG-1168	3.3.5.4.0-1	(U) The CPG **shall** implement locks and alarms for the protection of classified information systems in accordance with the appropriate level of classification. Information systems include processing and communications equipment.	I
CPG-1157	3.3.5.5.0-1	(U) The CPG **shall** provide an enclave for unclassified information.	T
CPG-1158	3.3.5.5.0-2	(U) The CPG **shall** provide an enclave for classified information.	T
CPG-1171	3.3.5.6.0-1	b(3)	T
CPG-2418	3.3.5.6.0-2	(U) The CPG **shall** provide the interface to allow the operator to command the associated radar b(3)	T
CPG-2398	3.3.5.6.0-3	b(3)	T
CPG-1177	3.3.5.7.0-1	(U) The CPG **shall** perform configuration checks during system initialization. Note: Configuration checks are performed on the hardware to validate that the interface, network, data storage, and processing related items are present and operational.	D
CPG-2578	3.3.5.7.0-2	(U) The CPG **shall** perform configuration checks during the system initialization of the loaded software b(3)	D
CPG-2452	3.3.5.7.0-3	(U) The CPG **shall** perform system configuration checks during an orderly system shutdown.	D
CPG-1179	3.3.5.7.0-4	(U) The CPG **shall** alert the operator upon completion of configuration checks and display the configuration check	D

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		results of the CPG, associated radar, and the Platform.	
CPG-1180	3.3.5.7.0-5	(U) The CPG **shall** enable the operator to manually acknowledge the configuration checks results of the CPG, the Platform, and the associated radar.	T
CPG-1178	3.3.5.7.0-5.0-1	(U) Prior to transitioning the system to Tactical mode, The CPG **shall** a) have received a pass on all hardware and software configuration checks or b) have received an operator over-ride to hardware and software configuration checks that have not all passed.	D
CPG-1181	3.3.5.7.0-6	(U) The CPG **shall** create and maintain a log which includes the results of the configuration checks for the CPG, the associated Platform, and the associated radar.	D
CPG-1182	3.3.5.7.0-7	(U) The CPG **shall** record hardware and software configuration data to the configuration log.	D
CPG-1185	3.3.7.0-1	(U) The CPG subsystems **shall** be designed with 50% data processing reserves for computer throughput and computer memory.	T
CPG-1190	3.3.7.1.0-1	(U) The CPG **shall** have non-volatile data storage devices with removable media.	I
CPG-1191	3.3.7.1.0-2	(U) The CPG classified data storage media **shall** be removable with the use of standard tools or standard equipment.	D
CPG-1194	3.3.7.3.0-1	(U) The CPG, excluding GFE, **shall** receive and forward IPv6 packets, and interface with other systems and protocols in accordance with Reference [8].	D
CPG-1196	3.3.8.0-1	(U) The CPG CCS **shall** be interchangeable between the SuS and the FCS.	A
CPG-1197	3.3.8.0-2	(U) The CPG airborne equipment **shall** be interchangeable between the SuS and the FCS.	A
CPG-1199	3.4.0-1	(U) The CPG design **shall** comply with the applicable information technology standards contained in the DoD Information Technology Standards Registry (DISR).	A
CPG-1205	3.5.2.0-1	(U) Scheduled PMCS for the CPG that removes the system from operation **shall** be no greater than 8 hours per occurrence with the exception of maintenance which requires depot support.	A
CPG-1207	3.5.3.0-1	(U) The CPG **shall** be designed such that standard military vehicles can be used for ground transportation.	A
CPG-1208	3.5.3.0-2	(U) The CPG **shall** be designed to use standard military vehicles, shelters, and trailers unless the government approves	A

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**Verification Method**
		justification for non-military equipment.	
CPG-1210	3.5.4.0-1	(U) The CPG **shall** be designed such that standard military vehicles can be used for handling.	A
CPG-1211	3.5.4.0-2	(U) The CPG **shall** be designed to use military lifting and handling equipment, unless the government approves justification for non-military equipment.	A
CPG-1213	3.5.5.0-1	**b(3)**	D
CPG-1214	3.5.5.0-2	**b(3)**	D
UNCLASSIFIED			

5 (U) PREPARATION FOR DELIVERY

6 (U) NOTES

6.1 (U) ACRONYM LIST

UNCLASSIFIED	
Acronym	**Definition**
ABCS	Army Battle Command System
ABT	Air Breathing Threat
ACM	Advanced Cruise Missile Airspace Control Measure
ACO	Airspace Control Order
ACUS	Area Common User Services
ADP	Air Defense Plan
ADSAM	Air-Directed Surface-to-Air Missile
AFOI	Airborne Fiber Optic Interface
[redacted]	b(3)
ANSI	American National Standards Institute
AOI	Area of Interest
ARM	Anti-Radiation Missile
ARS	Attitude Reference System
ASM	Air-to-Surface Missile
ASW	Air Strike Warning
[redacted]	b(3)
ATO	Air Tasking Order
BER	Bit Error Rate
[redacted]	b(3)
[redacted]	b(3)
BMC4I	Battle Management Command Control Communications Computers & Intelligence
C2	Command and Control
C4I	Command Control Communications Computers & Intelligence
CADRG	Compressed Arc Digitized Raster Graphics
CANTCO	Cannot Comply
CARC	Chemical Agent Resistant Coating
CCS	Communication and Control Station
CDS	Cross Domain Solutions

UNCLASSIFIED	
CEC	Cooperative Engagement Capability
CEP	Cooperative Engagement Processor
CGE	Communication Ground Equipment
CHS	Common Hardware and Software
CID	Combat Identifier
CIO	Chief Information Officer
CM	Cruise Missile
CMF	Common Message Format
CNR	Combat Net Radio
COA	Course of Action
COTS	Commercial Off-The-Shelf
CP	Communication Payload
CPG	Communication Processing Group
CWDM	Crossband Wave Division Multiplex
DAA	(1) Designated Approving Authority (2) Designated Accrediting Authority (3) Delegated Accrediting Authority
DAL	Defended Asset List
DCP	Display Command Processor
DCPG	Defense Communications Planning Group
DGPS	Differential Global Positioning System
DIICOE	Defense Information Infrastructure Common Operating Environment
DIS	Distributed Interactive Simulation
DISN	Defense Information Systems Network
DISR	DoD Information Technology Standards Registry
DNVT	Digital Non-Secure Voice Telephone
DoD	Department of Defense
DOT	Department of Transportation
DPGDS	Deployable Power Generation and Distribution System
DPM	Display and Process Manager
DPS	Data Processing Station
DSN	Defense Switched Network
DSVT	Digital Secure Voice Telephone
[redacted] b(3)	

UNCLASSIFIED	
DWDM	Defense Wavelength Division Multiplexing
E3	Electromagnetic Environment Effect
[redacted] b(3)	
[redacted] b(3)	
ECS	Environmental Control System
ECS	Environmental Control System
EED	Electro Explosive Devices
EHF	Extreme High Frequency
EID	Electrically Initiated Devices
EM	Electromagnetic Emissions
EMCON	Emission Control
EMI	Electromagnetic Interference
[redacted] b(3)	
EPA	Environmental Protection Agency
ERP	Effective Radiated Power
ESD	Electrostatic Discharge
EU	European Union
EW	Electronic Warfare
FCR	Fire Control Radar
FCS	Fire Control System
FD	Flight Director
FW	Fixed Wing
GATM	Global Air Traffic Management
GCCS	Global Command and Control System
GFCI	Ground Fault Circuit Interrupters
GFE	Government Furnished Equipment
GFOI	Ground Fiber Optic Interface
GIC	Gabarit International de Chargement
GOTS	Government Off-The-Shelf
GPFU	Gas Particulate Filter Unit
GPS	Global Positioning System
GSSIP	Global Standard Serial Interface Protocol
HAWK	Homing All the Way Killer
HE	Higher Echelon

UNCLASSIFIED	
HE(FO)	Higher Echelon (Force Operations)
HELO	Helicopter
[redacted] b(3)	
HEU	Higher Echelon Unit
HEU (EO)	Higher Echelon Unit (Engagement Operations)
HF	High Frequency
HLA	High Level Architecture
HW	Hardware
IA	Information Assurance
IAGP	Integrated Air and Ground Picture
IAMD	Integrated Air and Missile Defense
IAVM	Information Assurance Vulnerability Management
IBS	Integrated Broadcast System
ID	Identification
IDAA	ID Authority Area
IDS	Intrusion Detection System
IEEE	Institute of Electrical & Electronics Engineers
IETM	Interactive Electronic Technical Manuals
IFF	Identification Friend or Foe
IP	Internet Protocol
IR	Infrared
IRS	Interface Requirement Specification
IS	Information System
ISDN	Integrated Services Digital Network
ISO	International Organization for Standardization
JASPER	JLENS All-software SuR/PTIR Emulation in Real-time
JDN	Joint Data Network
JICO	Joint Interface Control Officer
JLENS	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor
JNN	Joint Network Node
JRE	Joint Range Extension
JREAP	Joint Range Extension Application Protocol
JS2	JLENS Spiral 2 System
JTA	Joint Technical Architecture

UNCLASSIFIED	
JTA-A	Joint Technical Architecture Army
[redacted] b(3)	
KVA	Kilovolt-Ampere
LACM	Land Attack Cruise Missile
LACMD	Land Attack Cruise Missile Defense
LAN	Local Area Network
LCR	Large Caliber Rocket
LEMP	Lightning Electromagnetic Pulse
LPE	Launch Point Estimates
LRU	Line Replaceable Unit
LTS	Long-Term Storage
LVT	Low Volume Terminal
MAC	Mission Assurance Category
MBMMR	Multi-Band Multi-Mode Radio
MEADS	Medium Extended Air Defense System
MIDS	Multifunctional Information Distribution System
MILSATCOM	Military Satellite Communications
MMD	Mass Median Diameter
MMS	Mobile Mooring Station
MO	Mission Operations
MOPP	Mission Oriented Protective Posture
MRBM	Medium Range Ballistic Missile
MS	Mission Support
MSE	Mobile Subscriber Equipment
MTBSA	Mean Time Between System Aborts
MTTR	Mean Time To Repair
NATO	North Atlantic Treaty Organization
NAVSEA	Naval Sea Systems Command
NBC	Nuclear Biological Chemical
[redacted] b(3)	
NDI	Non-Developmental Item
NFPA	National Fire Protection Agency
[redacted] b(3)	
NGT	Not Greater Than

UNCLASSIFIED	
NIMA	National Imagery and Mapping Agency
NIPRNET	Non-Classified Internet Protocol Router Network
NISPOM	National Industrial Security Program Operating Manual
NIST	National Institute of Standards and Technology
NLT	Not Less Than
NPG	Network Participation Group
NSA	National Security Agency
NTP	Network Time Protocol
OTH	Over-the-Horizon
PATRIOT	Phased Array Tracking Radar Intercept on Target
PCDS	Power Conversion and Distribution System
PF	Probability of False Correlation
PI	Prime Item
PIDS	Prime Item Development Specification
PDAL	Prioritized Defended Asset List
PTIR	Precision Track Illumination Radar
PTL	Primary Threat Line
PM	Probability of Missed Correlation
PMCS	Preventative Maintenance Checks and Services
POP	Performance-Oriented Packaging
PPLI	Precise Participant Location and Identification
PPS	Pulse Per Second
PSTN	Public Switched Telephone Network
RF	Radio Frequency
RPV	Remotely Piloted Vehicles
RTVM	Requirements Traceability and Verification Matrix
RW	Rotary Wing
[redacted]	b(3)
[redacted]	b(3)
SAM	Surface-to-Air-Missile
[redacted]	b(7)(e)
SATCOM	Satellite Communications
SDP	Signal Data Processor
SHF	Super High Frequency

UNCLASSIFIED	
SI	Software Item
SIAP	Single Integrated Air Picture
SIF	Selective Identification Feature
SINCGARS	Single Channel Ground to Air Radio System
SIPRNET	Secure Internet Protocol Router Network
SLAMRAAM	Surface Launched Advanced Medium Range Air-to-Air Missile
SM	Standard Missile
SMT	Surface Movement Target
SONET	Synchronous Optical Network Technology
SPS	Signal Processing Station
SRBM	Short-Range Ballistic Missile
SS	Surveillance System
STE	Secure Terminal Equipment
STOW	Synthetic Theater of War
STS	Short-Term Storage
STU	Secure Telephone Unit
SuR	Surveillance Radar
SuS	Surveillance System
SW	Software
SWT	Search While Track
TACOPDAT	Tactical Operations Data
TBM	Theater Ballistic Missile
TDIMF	Tactical Data Intercomputer Message Format
TDL	Tactical Data Link
THAAD	Theater High Altitude Area Defense
b(3)	
TOD	Time of Day
TWS	Track While Scan
UAV	Unmanned Air Vehicles
UCAV	Unmanned Combat Air Vehicle
UE	User Equipment
UHF	Ultra High Frequency
ULCANS	Ultra-Lightweight Camouflage Netting System
UPS	Uninterruptible Power Source

UNCLASSIFIED	
USMTF	United States Message Text Format
VHF	Very High Frequency
VPF	Vector Product Format
WAN	Wide Area Network
WCV	Weapon Control Volume
WGS	World Geodetic Survey
WILCO	Will Comply
XML	Extensible Markup Language
UNCLASSIFIED	

6.2

6.3 (U) GLOSSARY

UNCLASSIFIED	
Term	**Definition**
(U) Acoustic Noise Level	(U) The quantity of dB measured by a sound level meter satisfying the requirements of MIL-STD-1474D and MIL-STD-1472F. Acoustic noise level is the frequency weighted sound pressure level obtained with the standardized dynamic characteristics "fast" or "slow" and weighting A, B, or C. If the weighting employed is not indicated, a (-) weighting is understood.
b(3)	
(U) air-breathing	(U) A flying vehicle that uses the oxygen in the atmosphere as the oxidizer in its propulsion system. Examples are jet aircraft and cruise missiles. This category does not include ballistic missiles.
(U) Air Breathing Threat (ABT)	(U) The air breathing threat includes fixed-wing (FW) and rotary wing (RW) aircraft, tactical air-to-surface missiles (TASM), and unmanned aerial vehicles (UAV).
(U) Air Defense Warning (ADW)	(U) In air defense, air defense warnings (ADW) represent the commander's evaluation of the probability of air and/or missile attack within the Area of Operations. ADW are routinely issued by area, region, or sector AD commanders. Any commander can issue them. In no case can a commander lower ADW issued by the AD area, region, or sector commander. See air defense warning (ADW) conditions.
(U) Air Defense Warning (ADW) conditions	(U) A degree of air raids probability according to the following code. The term air defense division/sector referred to herein may include forces and units afloat and/or deployed to forward areas, as applicable. b(3)
(U) Airspace Control Measures (ACM)	(U) Rules, mechanisms, and directions governed by joint doctrine and defined by the airspace control plan which control the use of airspace of specified dimensions.
(U) Airspace Control Order (ACO)	(U) An order implementing the airspace control plan that provides the details of the approved requests for airspace control measures. It is published either as part of the air tasking order or as a separate document.

UNCLASSIFIED	
(U) Air Tasking Order (ATO)	(U) A method used to task and disseminate to components, subordinate units, and command and control agencies those projected sorties/capabilities/forces to targets and specific missions.
(U) air-to-surface (guided) missile (ASM)	(U) An air-launched guided missile for use against surface targets.
(U) American National Standards Institute (ANSI)	(U) The United States standards organization that establishes procedures for the development and coordination of voluntary American national standards.
(U) anti-radiation missile (ARM)	(U) A missile which homes passively on a radiation source.
(U) Area Common User System (ACUS)	(U) The ACUS is the in-theater, tactical communications equivalent to civilian phone service. The ACUS utilizes the MSE communications family of equipment that consists of a variety of multi-channel radio and switching systems to form a communications network to provide bulk-encrypted (secure), voice and data, and tactical packet network switching.
(U) Area of Interest (AOI)	(U) That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces which could jeopardize the accomplishment of the mission. (Army)-A geographical area from which information and intelligence are required to execute successful tactical operations and to plan for future operations. It includes any threat forces or characteristics of the battlefield environment that will significantly influence accomplishment of the command's mission.
(U) Area of Responsibility (AOR)	(U) The geographical area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. Also called AOR.
(U) Army Battle Command System (ABCS)	(U) The Army's component to the GCCS and, as such, provides the mechanism to receive and transmit information among the joint forces. The ABCS consists of subsystems for the Battlefield Functional Area (BFA) each of which supports, provides information to other systems, and provides situational awareness of the battlefield.
(U) associated radar	(U) The type of radar the CPG has been assigned to interface with and control. In an FCS CPG, the associated radar is the FCR. In a SuS CPG, the associated radar is the SuR. The phrase "associated radar" is used in conjunction with generic CPG requirements, which apply to both types of CPG.
(U) authentication	(U) a. A security measure designed to protect a communications system against acceptance of a fraudulent transmission or simulation by establishing the validity of a transmission, message, or originator. b. A means of identifying individuals and verifying their eligibility to receive specific categories of information.
(U) Availability	(U) Refer to Reference [19], Glossary for the definition of availability.
(U) avenue of approach (AA)	(U) An air or ground route of an attacking force of a given size leading to its objective or to key terrain in its path. Also called AA.

UNCLASSIFIED	
(U) azimuth (AZ)	(U) Quantities may be expressed in positive quantities increasing in a clockwise direction, or in X, Y coordinates where south and west are negative. They may be referenced to true north or magnetic north depending on the particular weapon system used. (Army)- The horizontal angle, measured clockwise by degrees or mils between a reference direction and the line to an observed or designated point. There are three base (reference) directions or azimuths: true, grid, and magnetic azimuth.
(U) azimuth angle	(U) An angle measured clockwise in the horizontal plane between a reference direction and any other line.
(U) boost phase	(U) That portion of the flight of a ballistic missile or space vehicle during which the booster and sustainer engines operate.
[redacted]	b(3)
(U) Classification	(U) The process of determining the type of platform represented in a track an analysis of target characteris[redacted] b(3)
(U) command and control (C2)	(U) The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.
(U) communications line-of-sight	(U) A LOS with a quality measurement associated with it which considers radio type, antenna height, range, elevation angle and beamwidth, directionality in azimuth (omnidirectional or point-to-point) and node location AGL (above ground level) (for airborne nodes).
(U) communications node	(U) Any RF-capable air defense element.
(U) Communication Payload (CP)	(U) The CP contains the airborne components of the CPG, consisting of GFE such as the MIDS radio and CEC antenna. See section titled Communication Payload of this document.
(U) Continental United States (CONUS)	(U) The 48 contiguous states and the District of Columbia. Alaska and Hawaii are not included in the definition of CONUS.
(U) Cooperative Engagement Capability (CEC)	[redacted] b(3)
(U) course of action (COA)	(U) a. Any sequence of activities that an individual or unit may follow. b. A possible plan open to an individual or commander that would accomplish, or is related to the accomplishment of the mission. c. The scheme adopted to accomplish a job or mission. d. A line of conduct in an engagement. e. A product of the Joint Operation Planning and Execution System concept development phase.

UNCLASSIFIED	
(U) cover	(U) a. The action by an air defense system to obtain track and additional data on a target of interest in preparation for potential engagement b. The action by land, air, or sea forces to protect by offense, defense, or threat of either or both. c. Those measures necessary to give protection to a person, plan, operation, formation, or installation from the enemy intelligence effort and leakage of information.
(U) coverage	(U) a. The ground area represented on imagery, photomaps, mosaics, maps, and other geographical presentation systems. (DoD) b. Cover or protection, as the coverage of troops by supporting fire. c. The extent to which intelligence information is available in respect to any specified area of interest. d. The summation of the geographical areas and volumes of aerospace under surveillance.
(U) cruise missile (CM)	(U) Guided missile, the major portion of whose flight path to its target is conducted at approximately constant velocity; depends on the dynamic reaction of air for lift and upon propulsion forces to balance drag.
(U) dead code	(U) Compiled, executable code that has no path for execution. Dead code occurs in re-used code, where functions called in the original code are not needed in the re-used version.
(U) decontamination	(U) The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or removing chemical or biological agents, or by removing radioactive material clinging to or around it.
(U) Defended Asset List (DAL)	(U) A ranked listing of facilities, forces, and national political items that require protection from attack or hostile surveillance. The list is compiled from Federal departments and agencies, Unified and Specified Commands, and the Armed Services to ensure National Security Emergency Preparedness functions.
(U) Defense Information Systems Network (DISN)	(U) Integrated network, centrally managed and configured to provide long-haul information transfer services for all Department of Defense activities. It is an information transfer utility designed to provide dedicated point-to-point, switched voice and data, imagery, and video teleconferencing services.
(U) Defense Switched Network (DSN)	(U) Component of the Defense Communications System that handles Department of Defense voice, data, and video communications.
(U) (deliberate) planning	(U) A planning process for the deployment and employment of apportioned forces and resources that occurs in response to a mission defined situation. Deliberate planners rely heavily on received orders and intelligence preparation of the battlefield regarding the circumstances that will exist when the plan is to be executed.
(U) discrimination	(U) The process of identifying a track as either aerial or surface.
(U) doctrine	(U) Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application.
(U) drop track	(U) The unit having reporting responsibility for a particular track is dropping that track and will no longer report it. Other units holding an interest in that track may continue to report it.
b(3)	
b(3)	

UNCLASSIFIED	
(U) electronic warfare (EW)	(U) Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. The three major divisions within electronic warfare are electronic attack, electronic protection, and electronic warfare support.
(U) embedded training	(U) Training that is provided by capabilities designed to be built into or added onto operational systems to enhance and maintain the skill proficiency necessary to operate and maintain that equipment end item.
(U) emission control (EMCON)	(U) The selective and controlled use of electromagnetic, acoustic, or other emitters to optimize command and control capabilities while minimizing, for security: a. detection by enemy sensors; b. minimize mutual interference among friendly systems; and/or c. execute a military deception plan.
(U) engagement	(U) In air defense, an attack with guns or air-to-air missiles by an interceptor aircraft, or the launch of an air defense missile by air defense artillery and the missile's subsequent travel to intercept. (Army)-A small tactical conflict, usually between opposing forces.
(U) engagement operations (EO)	(U) EO includes those functions required to execute the air, missile, and counter-surveillance battles. The air surveillance function establishes a correlated air picture with target types and identification. The mission control function processes commands from higher echelon units, evaluates the threat, optimizes engagement performance, monitors the outcome of engagements, and manages the employment of sensors and decoys. The attack operations support function determines the location of enemy air and missile launch sites and provides it to attack systems. The data distribution function distributes the air picture and track data.
(U) Enhanced Position Location Reporting System (EPLRS)	(U) A secure, jam-resistant data communications system utilized by SHORAD to provide data distribution at corps and lower echelons.
(U) environmental control system (ECS)	(U) Monitors, controls, and provides heating and cooling, while supporting CBR protection.
(U) failover	(U) Online fault recovery performed by using redundant system components without replacing or repairing the failed component. In general, this is performed to minimize data loss and interruption to system operations.
(U) fault	(U) A physical condition that causes a device, a component, or an element, to fail to perform in a required manner.
(U) faults detected	(U) SW faults and **b3** faults
(U) field of view (FOV)	(U) The angular measure of the volume of space within which the system can respond to the presence of a target.
(U) force operations (FO)	(U) Force Operations include functions that are required for planning, coordinating, preparing, and sustaining the total ADA mission. The situation analysis function continuously collects and evaluates all available information on friendly and hostile forces, including the intelligence tasks of continuous IPB and situation development. The defense planning function develops and assesses various options and produces a preferred course of action.
(U) fragile component	(U) Equipment which cannot withstand a 6 inch bottom faced flat drop when packaged for the Movement State without damage

UNCLASSIFIED	
(U) free form message text	(U) A message text without prescribed format arrangements. It is intended for fast drafting as well as manual handling and processing.
(U) Freeware	(U) Computer software that is made available free of charge, but which is copyrighted by its developer, who retains the rights to control its distribution, modify it and sell it in the future. It is typically distributed without its source code, thus preventing modification by its users.
(U) Global Command and Control System (GCCS)	(U) Highly mobile, deployable command and control system supporting forces for joint and multinational operations across the range of military operations, any time and any where in the world with compatible, interoperable, and integrated command, control, communications, computers, and intelligence systems.
(U) Global Positioning System (GPS)	(U) A satellite-based system used for accurate positioning and navigation.
(U) Hash	(U) Value computed on data to detect error or manipulation.
(U) High Risk	(U) (IA) If an observation or finding is evaluated as high risk, there is a strong need for corrective measures. An existing system may continue to operate, but a corrective action plan must be put in place as soon as possible.
(U) High-robustness	(U) Robustness describes the strength of mechanism (e.g., the strength of a cryptographic algorithm) and assurance properties (i.e., confidence measures taken to ensure proper mechanism implementation) for an IA solution. The more robust a particular component is, the greater level of confidence in the protection provided to the security services it supports. High robustness security services and mechanisms provide, through rigorous analysis, the most confidence in those security mechanisms. Generally, high robustness technical solutions require NSA-certified high robustness solution for cryptography, access control and key management and high assurance security design as specified in NSA-endorsed high robustness protection profiles, where available.
(U) hostile	(U) An identity applied to a track declared to belong to any opposing nation, party, group, or entity, which by virtue of its behavior or information collected on it such as characteristics, origin, or nationality contributes to the threat to friendly forces.
(U) IA- Enabled Information Technology Product	(U) Product or technology whose primary role is not security, but which provides security services as an associated feature of its intended operating capabilities. Examples include such products as security-enabled web browsers, screening routers, trusted operating systems, and security-enabled messaging systems.
(U) IA Products	(U) Product or technology whose primary purpose is to provide security services (e.g., confidentiality, authentication, integrity, access control, non-repudiation of data); correct known vulnerabilities; and/or provide layered defense against various categories of non-authorized or malicious penetrations of information systems or networks. Examples include such products as data/network encryptors, firewalls, and intrusion detection devices.
(U) Identification	(U) The determination of the affiliation of a track. The identification/affiliation categories are Pending, Unknown, Assumed Friend, Friend, Neutral, Suspect, and Hostile.
(U) identification, friend or foe (IFF)	(U) A system using electromagnetic transmissions to which equipment carried by friendly forces automatically responds; for example, by emitting pulses, thereby distinguishing themselves from enemy forces. (Army)-A device which emits a signal positively identifying it as a friendly.

UNCLASSIFIED	
(U) IFF On Line	(U) The boundary beyond which the supported weapon systems will not interrogate because IFF may be inactive for friendly aircraft.
(U) Information system security functions	(U) The functions that provide for the means of protecting information and information systems from unauthorized access, use, disclosure, disruption, modification, or destruction
(U) Integrated Broadcast System (IBS)	b(3)
(U) Integrity	(U) Refer to Reference [19], Glossary for the definition of integrity.
(U) intelligence preparation of the battlespace (IPB)	(U) An analytical methodology employed to reduce uncertainties concerning the enemy, environment, and terrain for all types of operations. Intelligence preparation of the battlespace builds an extensive database for each potential area in which a unit may be required to operate. The database is then analyzed in detail to determine the impact of the enemy, environment, and terrain on operations and presents it in graphic form.
(U) Interactive Electronic Technical Manual (IETM)	(U) A technical manual delivered electronically. IETM possesses the following characteristics: it can be presented either on a desktop or a portable device; the elements of data constituting the IETM are so interrelated that a user's access to the information is achievable by a variety of paths; and it provides procedural guidance, navigational directions, and other technical information required by the user.
(U) interoperability	(U) The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services exchanged to operate effectively together.
(U) investigate	(U) Command to intercept a target by ordering a unit (typically an aircraft) to collect additional information on the target by sensor or visual means.
(U) jammer	(U) Radio frequency (RF) transmitters accompanying attacking air vehicles and tuned to broadcast at the same frequency as a defensive radar. The broadcasts add "noise" to the signals reflected from the air vehicles and received by the radar. Susceptibility to jamming generally decreases with increasing radar frequency, with decreasing altitude, and with increasing radar power.
(U) Joint Interface Control Officer (JICO)	(U) Responsible for managing the multi-data link network from the Air Operations Center (AOC). The JICO works for the Army Air Defense Command (AADC) and does the following: a. (U) Establishes the multi-data link network. b. (U) Ensures units comply with direction in the theater data link tasking documents. c. (U) Monitors TADIL and interface unit status. d. (U) Resolves joint connectivity and interoperability issues.
(U) Joint Range Extension Application Protocol (JREAP)	(U) Enables tactical data to be transmitted over digital media and networks not originally designed for tactical data exchange. Formatted tactical digital messages are embedded inside of JREAP messages as data fields within available commercial and Government protocols, such as those used over satellites and terrestrial links.

UNCLASSIFIED	
(U) Joint Tactical Information Distribution System (JTIDS)	(U) A joint service, jam-resistant, secure communications system that permits the interchange of essential tactical information between aircraft, surface vessels, and mobile or fixed-based land stations.
b(3)	
(U) kill assessment (KA)	(U) An evaluation of (track) information to determine the result of a (ballistic missile) intercept for the purpose of providing information for defense effectiveness and re-engagements.
(U) line of sight (LOS)	(U) The unobstructed path from a soldier, weapon sight, electronic-sending and receiving antennas, or piece of reconnaissance equipment from one point to another.
(U) line replaceable unit (LRU)	(U) A composite group of modules/subassemblies performing one or more discrete functions in communications-electronics systems, constructed as an independently packaged unit for direct installation in communications-electronics equipment.
(U) Link-16	(U) A secure, high capacity, jam-resistant, nodeless data link which uses the Joint Tactical Information Distribution System (JTIDS) transmission characteristics and the protocols, conventions, and fixed length message formats defined by the JTIDS Technical Interface Design Plan (TIDP).
(U) Low Risk	(U) (IA) If an observation is described as low risk, the system's DAA must determine whether corrective actions are still required or decide to accept the risk.
(U) Machine Executable Public Domain Software Products	(U) Software not protected by copyright laws of any nation that carries no warranties or liabilities, and may be freely used without permission of or payment to the creator.
(U) mean time between failure (MTBF)	(U) A measure of the reliability of an end item. Defined as the total functioning life of an item divided by the total number of failures within the population during the measurement interval. The definition holds for time, rounds, miles, events, or other measures of unit life. MTBF is a basic measure of reliability.
(U) mean time to repair (MTTR)	(U) The total elapsed time for corrective maintenance divided by the number of corrective maintenance actions during a given period of time. MTTR is a basic measure of maintainability.
(U) Medium Extended Air Defense System (MEADS)	(U) A lightweight, highly transportable, low-to-medium altitude air defense and theater missile defense system designed to protect critical fixed and maneuver corps assets.
(U) Medium Risk	(U) (IA) If an observation is rated as medium risk, corrective actions are needed and a plan must be developed to incorporate these actions within a reasonable period of time.
(U) military grid reference system (MGRS)	(U) A system which uses a standard-scaled grid square, based on a point of origin on a map projection of the surface of the Earth in an accurate and consistent manner to permit either position referencing or the computation of direction and distance between grid positions.

UNCLASSIFIED	
(U) method of control (MOC)	(U) Procedures by which the fires of air defense weapon systems are supervised in a particular defense. Theater rules or unit standing operating procedures may specify or imply use of either the centralized or decentralized method of control, or circumstances may force autonomous operations.
(U) Mobile Code	Software modules obtained from remote systems, transferred across a network, and then downloaded and executed on local systems without explicit installation or execution by the recipient. Examples of mobile code include scripts (JavaScript, VBScript), Java applets, ActiveX controls, Flash animations, Shockwave movies (and Xtras), and macros embedded within Office documents.
(U) near lightning strike	(U) A cloud-to-ground lightning strike within 10 m of JLENS equipment which creates the following conditions: a. (U) Electromagnetic fields from near strike lightning (cloud-to-ground) b. (U) Magnetic field rate of change @ 10 meters 2.2x109 A/m/s c. (U) Electric field rate of change @ 10 meters 6.8x1011 V/m/s
(U) netted training	(U) This capability allows JLENS crews to operate the JLENS system while netted with other systems, including other JLENS systems, running a synchronized, centrally-controlled, scenario. The JLENS CCS will exchange track based on the scenario with the other netted participants. This data exchange can occur over a wired link between the scenario participants or over the RF links. The CCS will also be able to monitor and report the live picture in a netted training scenario.
(U) neutral	(U) In combat and combat support operations, an identity applied to a track whose characteristics, behavior, origin, or nationally indicate that it is neither supporting nor opposing friendly forces.
(U) non-fragile component	(U) Equipment that can withstand a 6 inch bottom face flat drop when packaged for the Movement state without damage.
(U) nuclear, biological, and chemical (NBC) environment	(U) Environments in which there is deliberate or accidental employment, or threat of employment, of nuclear, biological, or chemical weapons; deliberate or accidental attacks or contamination with toxic industrial materials, including toxic industrial chemicals; or deliberate or accidental attacks or contamination with radiological (radioactive) materials.
(U) OCONUS	(U) Geographic locations outside the contiguous 48 United States and the District of Columbia.
(U) operation plan (OPLAN)	(U) An operation plan for the conduct of joint operations that can be used as a basis for development of an operation order (OPORD). An OPLAN identifies the forces and supplies required to execute the combatant commander's strategic concept and a movement schedule of these resources to the theater of operations.
(U) Orbit	(U) The JLENS Surveillance System and the JLENS Fire Control System with no additional hardware or equipment. Also referred to as the JLENS Orbit.
(U) Precise Participant Location and Identification (PPLI)	(U) The function performed by the JTIDS/MIDS terminal to periodically transmit own unit's position and identifying information via the J2.X series of TADIL J/Link-16 messages.
(U) Primary Threat Line (PTL)	(U) The azimuth boresight line of the radar antenna which is oriented to the direction of most probable hostile target penetration.

UNCLASSIFIED	
(U) probability of kill (Pk)	(U) The lethality of a weapon system. Generally refers to armaments (i.e., missiles, ordnance, etc.) Usually the statistical probabilities that the weapon will detonate close enough to the target with enough power to disable the target.
(U) radar cross section (RCS)	(U) Area of an object as scanned by radar; measured in square meters.
(U) recovery	(U) Restoration of full system tactical operations after a fault occurs.
(U) safe state	(U) Any software state in which the chance of a software-induced hazard is mitigated to an acceptable level.
(U) Safety Critical Function	(U) A safety critical function is a function that meets any of the following criteria: a. a function that exercises direct command and control over the condition or state of hardware. When not performed correctly, a safety critical function could directly or indirectly cause or allow a high or serious hazardous condition. b. a function that monitors the state of hardware components. When not performed correctly, a safety critical function could provide data that results in erroneous decisions by human operators or companion systems that could cause a high or serious hazardous condition. c. safety critical functions are not only those functions that could cause high or serious hazards to exist, but they could prevent high or serious hazards by detecting the presence of a high or serious hazardous condition, producing notification that a high or serious hazardous condition exists, attempting to control or reduce the severity or probability of a hazardous condition, or returning the system to a non-hazardous condition. Note: for software, the Software Hazard Risk Index (SHRI) of 1 and 2 are equivalent in definition to a high and serious hazard, respectively.
(U) Safety Related Function	(U) A safety related function has the same definition as a safety critical function except that safety related functions apply to medium risk hazards. Note: for software, the SHRI of 3 is equivalent in definition to a medium risk hazard.
(U) SECRET Internet Protocol Router Network (SIPRNET)	(U) Worldwide SECRET level packet switch network that uses high-speed internet protocol routers and high-capacity Defense Information Systems Network circuitry. Also called SIPRNET. See also Defense Information Systems Network.
(U) Security Principle of Least Privilege	(U) Users are only allowed to access the minimum information required to perform their duties. (Access control) Requires that in a particular abstraction layer of a computing environment, every module (such as a process, a user or a program on the basis of the layer being considered) must be able to access only such information and resources that are necessary to its legitimate purpose.
(U) Selective Identification Feature (SIF)	(U) A capability that, when added to the basic IFF system, provides the means to transmit, receive, and display selected coded replies.
(U) shadow	(U) Command to intercept a target by ordering a unit to keep the target under observation by maintaining surveillance on the target.
(U) Shareware	(U) See "freeware"
(U) Single Channel Ground and Airborne Radio System (SINCGARS)	(U) A family of VHF-FM combat net radios which provides the primary means of command and control for Infantry, Armor, and Artillery Units. The SINCGARS family of radios has the capability to transmit and receive voice and tactical data, and record traffic messages.

UNCLASSIFIED	
(U) spoofing	(U) Any technique by which sensitive information or commands may be substituted or stopped without the knowledge of the personnel involved.
(U) strobe	(U) Radar indications of noise jamming.
(U) stand-alone training	(U)This capability enables individuals or crews to train for force operations or engagement operations tasks using a single JLENS system. Stand-alone training is done in the Communication and Control Station (CCS) of the system. Stand-alone training will use simulations to drive the tactical displays. In stand-alone training the CCS will not exchange simulated tracks or simulated system information with external systems. The CCS will exchange live tracks while doing stand-alone training (provided live tracks are being gathered by the radar). One or both Operators can participate in a stand-alone training session.
(U) surface-to-air (guided) missile (SAM)	(U) A surface-launched (guided) missile for use against air targets.
(U) Surface Weapon	A land- or sea-based weapon
(U) suspect	(U) An identity applied to a track that is potentially hostile because of its characteristics, behavior, origin, or nationality.
(U) System Abort	For <topic>, refer to Appendix B.
(U) tactical ballistic missile (TBM)	(U) A land based missile generally having a range of < 3000 miles that can be employed within a continental theater of operations.
(U) tactical digital information link	(U) A joint Staff-approved, standardized communication link suitable for transmission of digital information. Tactical digital information links interface two or more command and control or weapons systems via a single or multiple network architecture and multiple communication media for exchange of tactical information. Also called TADIL. TADIL-J is also known as Link-16.
(U) tempest	(U) An unclassified term referring to technical investigations for compromising emanations from electrically operated information processing equipment; these investigations are conducted in support of emanations and emissions security.
(U) terrain analysis	(U) The collection, analysis, evaluation, and interpretation of geographic information on the natural and manmade features of the terrain, combined with other relevant factors, to predict the effect of the terrain on military operations.
(U) terrain masking	(U) The ability of terrain features to deny observation of an object.
(U) track management	(U) Defined set of procedures whereby the commander ensures accurate friendly and enemy unit and/or platform locations, and a dissemination procedure for filtering, combining, and passing that information to higher, adjacent, and subordinate commanders.
(U) track symbology	(U) Symbols used to display tracks on a data display console or other display device.
(U) unknown	(U) a. An unidentified target. An aircraft or ship that has not been determined to be hostile, friendly, or neutral using identification friend or foe and other techniques, but that must be tracked by air defense or naval engagement systems. b. An identity applied to an evaluated track that has not been identified.

UNCLASSIFIED	
(U) unmanned aerial vehicle (UAV)	(U) A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or non-lethal payload. Ballistic or semi-ballistic vehicles, cruise missiles, and artillery projectiles are not considered unmanned aerial vehicles. Also called UAV.
(U) weapons control status (WCS)	(U) The degree of fire control imposed upon Army units having an air defense mission in the combat zone. Weapons control status terms normally used are as follows; weapons free, weapons tight, and weapons hold.
UNCLASSIFIED	

6.4 (U) REQUIREMENTS ALLOCATION MATRIX

(U) REQUIREMENTS ALLOCATION MATRIX

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-268	3.2.1.1.0-1	(U) The CPG **shall** operate as part of a JLENS system (SuS or FCS) on prepared land sites as defined in Reference [19], section titled *Glossary*.	CCCS, CDSS, CECS			N
CPG-269	3.2.1.1.0-2	**b(3)**	CCCS, CDSS, CECS			N
CPG-270	3.2.1.1.0-3	(U) The CPG **shall** support stand-alone operation for a Surveillance System or a Fire Control System, where stand-alone means that there need not be a complementary FCS or SuS.		MO, MS, DPM, HMS	Build 3a	N
CPG-271	3.2.1.1.0-4	(U) The CPG **shall** execute operations automatically using Mission Planning and Mission Profile parameters in the following areas: a. (U) maintain track data from multiple sources b. (U) process category and platform (specific type) data c. (U) process identification data d. (U) prioritize and request IFF challenging e. (U) associate IFF returns to system tracks f. (U) establish and update track priorities g. (U) report tracks h. (U) engagement support for remote weapons i. (U) assess operational health of the CPG, Platform, and associated radar		MO, MS, DPM, HMS	Build 3a - ABT Build 4 - SMT, LCR, TBM, data recording	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		j. (U) record tactical data				
CPG-281	3.2.1.1.0-5	(U) The CPG **shall** alert the operator when interventions are required for automatic operations in the following areas: a. (U) category, platform type or specific type data differences with external systems b. (U) identification data differences with external systems c. (U) priority engagement support actions d. (U) radar and communication b(3) e. (U) data recording space availability f. (U) operational health failures		MO, DPM, HMS	Build 3b - ABT Build 4 - SMT, LCR, TBM	N
CPG-2343	3.2.1.1.0-6	(U) The CPG **shall** have probability of data transfer from air to ground as defined in Appendix B.	CCP			N
CPG-2344	3.2.1.1.0-7	(U) The CPG **shall** have probability of transfer of track data within an Orbit as defined in Appendix B.	CCNP, CCP			N
CPG-2345	3.2.1.1.0-8	b(3)	CCP			N
CPG-2417	3.2.1.1.0-9	b(3)	CCP			N
CPG-288	3.2.1.1.0-10	b(3)	CCCS, CDSS, CCNP, CCP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		equipment.				
CPG-290	3.2.1.2.0-1	(U) The CPG **shall** initialize (power-up) into a safe state.	CCCS, CCCE, CDSS, CDSE, CCNP, CCP	MO, ET, DPM	Build 3a Build 3b Build 4 Build 5	N
CPG-291	3.2.1.2.0-2	(U) The CPG, upon power application, **shall** automatically initialize components to a point where they can accept configuration commands.	CCCS, CDSS, CCP	MO, MS, DPM	Build 2 Build 4	N
CPG-292	3.2.1.2.0-3	(U) Upon completed boot up, the CPG **shall** display an indication that boot up is complete along with indications of CPG processing elements faults that occurred during **b(3)**		MS, DPM, HMS	Build 3a	SR
CPG-293	3.2.1.2.0-4	(U) The CPG **shall** provide an access control mechanism for operator login.		DPM	Build 3a	N
CPG-294	3.2.1.2.0-5	(U) The CPG **shall** enable login to support the following roles: a. (U) operator including planning, system health monitor, and radar management b. (U) administrator c. (U) maintainer		DPM	Build 3a	SR
CPG-298	3.2.1.2.0-6	(U) The CPG **shall** enable operator actions based on operator type.		DPM	Build 3a	N
CPG-299	3.2.1.2.0-7	(U) The CPG **shall** enable operator actions based on the system configuration (SuS or FCS).		MO, MS, ET, DPM, HMS	Build 3a, 4	N
CPG-300	3.2.1.2.0-8	(U) The CPG **shall** configure itself consistent with the selected radar type.		MO, MS, ET, DPM, HMS	Build 3a, 4	N
CPG-301	3.2.1.2.0-9	(U) The CPG **shall** maintain default system configuration parameters.		MO, MS, DPM, HMS	Build 2	N
CPG-302	3.2.1.2.0-10	(U) The CPG **shall** conduct a controlled shutdown of the system upon operator initiation.		MO, MS, ET, DPM, HMS	Build 3a	N
CPG-303	3.2.1.2.0-11	(U) The CPG **shall** provide for a safe system shutdown, whether operator initiated or automatic.	CCCS, CDSS, CCP, CPWR,	MO, DPM	Build 3a	SC

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
			CECS			
CPG-305	3.2.1.3.0-2	(U) The CPG **shall** collect, prepare, process, and analyze mission and operational planning data; build mission plans; and analyze coverage to conduct its assigned mission using rules defined by the directing C2 node. The results of these activities are used to build the details of mission profiles used to manage the associated radar.		MS	Build 3a - ABT Build 4 - SMT, LCR, TBM, ABT	N
CPG-2671	3.2.1.3.0-3	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve Mission Planning data to support JLENS operations in the absence of connectivity with HEU(FO) [redacted] b(3)		MS	Build 4	N
CPG-306	3.2.1.3.0-4	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve [redacted] b(3) [redacted] of Mission Planning data to include the following: a. (U) mission designation/identification b. (U) airspace control measures (ACMs) c. (U) weapon control volumes (WCVs) d. (U) defended assets with priority e. (U) air defense elements with needed search coverage f. (U) areas of interest (AOI) g. (U) IFF mode selections and challenge controls h. (U) track category priorities in support of the mission i. (U) known hostile specific types j. (U) known friendly specific types k. (U) known neutral specific types		MS	Build 3a	N
CPG-318	3.2.1.3.0-5	(U) The CPG **shall** enable the operator to		MS	Build 2	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		review received messages, generate messages, transmit messages, save messages, and retrieve messages exchanged with the Higher Echelon (Force Operations) (HE(FO)) in formats in accordance with Reference [13]. This exchange supports the transfer of planning data to HE(FO).				
CPG-319	3.2.1.3.0-6	(U) The CPG **shall** display notification upon receipt of new or updated operational orders of the following types: a. (U) Air Tasking Order (ATO) b. (U) Airspace Control Order (ACO) c. (U) Tactical Operations Data (TACOPDAT) d. (U) Battlefield Geometry e. (U) Operations Plan and/or Order Change (PLANORDCHG) f. (U) Order Message (ORDER)		MS	Build 2	N
CPG-326	3.2.1.3.0-7	(U) The CPG **shall** display notification upon receipt of new or updated operational planning data containing the following data elements: a. (U) Operational Plan b. (U) Air Defense Plan (ADP) c. (U) Defended Asset List (DAL) d. (U) Planning Periods e. (U) Prioritized DAL (PDAL) f. (U) Defense Designs g. (U) Defensive Tasks h. (U) Resources i. (U) Assets		MS	Build 2	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		j. (U) Threats k. (U) Units l. (U) Validations				
CPG-339	3.2.1.3.0-8	(U) The CPG **shall** alert the operator upon receipt of: a. (U) Enemy Situational Awareness (ENSIT) b. (U) Operational Tasking Data Links (OPTASKLINK) c. (U) Commander's Situation Report (SITREP) d. (U) Request for Information (RI) e. (U) Response to Request for Information (RRI) f. (U) Tactical Report (TACREP)		MS	Build 2	N
CPG-346	3.2.1.3.0-9	(U) The CPG **shall** enable the operator to select and load received operational planning data and orders required for the JLENS mission into the Mission Planning database.		MS	Build 2	N
CPG-348	3.2.1.3.0-10	(U) The CPG **shall** provide computer and network equipment to host software for use to perform military administrative, personnel, and logistics functions. This computer equipment can be in addition to processing required for JLENS operations.	CCCS, CCNP			N
CPG-349	3.2.1.3.0-11	(U) The CPG **shall** perform terrain-based coverage analysis [redacted]		MS	Build 3a	N
CPG-350	3.2.1.3.0-12	(U) The CPG coverage analysis **shall** enable the operator to assess communication visibility based on terrain and relative antenna height above ground level.		MS	Build 4	N
CPG-351	3.2.1.3.0-13	(U) The CPG radar coverage analysis **shall** enable the operator to assess areas of coverage considering the following: a. (U) Terrain [redacted]		MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b. (U) Radar type and planned altitude c. (U) System is operating standalone or as part of an orbit supporting the same mission (FCS only) d. b(3) [redacted] e. (U) Multiple track altitudes f. (U) Radar field of view adjusted for planned sectors with radiation state and range g. (U) Overlap with engagement zones of supported weapons			Not required based on TEMP, but desired at Build 3.	
CPG-2617	3.2.1.3.0-14	(U) The CPG **shall** ensure that the SuR surveillance sectors: a. (U) Do not overlap b. (U) Have uniquely assigned priorities		MS	Build 4	N
CPG-359	3.2.1.3.0-15	(U) The CPG **shall** provide the displays and controls necessary to accept and display military weather data.	CCNP	MS	Build 2	N
CPG-360	3.2.1.3.0-17	(U) The CPG **shall** provide the interface to allow the operator to create mission profiles.		MS	Build 3a	N
CPG-2609	3.2.1.3.0-17.0-1	(U) The CPG **shall** provide the interface to allow the operator to retrieve stored mission profiles.		MS	Build 3a	N
CPG-2608	3.2.1.3.0-18	(U) The CPG **shall** provide the interface to allow the operator to save mission profiles.		MS	Build 3a	N
CPG-2607	3.2.1.3.0-19	(U) The CPG **shall** provide the interface to allow the operator to edit mission profiles.		MS	Build 3a	N
CPG-2643	3.2.1.3.0-20	(U) The CPG **shall** provide storage and access to b(3) [redacted] mission profiles.		MS	Build 3a	N
CPG-372	3.2.1.4.1.0-1	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve communications equipment configuration parameters to include the following:	CCNP	MO, MS, DPM	Build 3b-MIDS, GPS , b(3) [redacted]	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		a. (U) MIDS radio Load File b. (U) GPS Setup c. (U) External Systems IP Addressing d. (U) CEC e. (U) TOCNET f. (U) Voice Radio g. (U) JRE SATCOM h. b(3)			IP Addressing, CEC, TOCNET, Voice Radio Build 4- JRE IP, JRE SATCOM, b(3)	
CPG-376	3.2.1.4.1.0-2	(U) The CPG **shall** enable the operator to implement communication controls to include the following: a. (U) Link 16 Enable/Disable and designate associated load file b. (U) JRE Enable/Disable c. (U) CEC Enable/Disable d. (U) ABCS Enable/Disable e. (U) ABCS Track Reporting Enable/Disable f. (U) IBS Enable/Disable and designate associated load file g. (U) Secure Internet Protocol Router Network (SIPRNET) Enable/Disable h. (U) Non-Classified Internet Protocol Router Network (NIPRNET) Enable/Disable		MO, MS, DPM	Build 3b Build 4	N
CPG-384	3.2.1.4.1.0-3	(U) The CPG **shall** enable the operator to command Emission Control (EMCON) for each of the organic GFE radios b(3) . Voice communications are shut down by the operator consistent with the scope of the EMCON decision.		MO, DPM	Build 3b	N
CPG-385	3.2.1.4.1.0-4	(U) The CPG **shall** provide operator controls to establish track reporting filters		MO	Build 2 -	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		for Link-16 to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity			IOC Build 3b - ABT Build 4 - SMT, LCR, TBM	
CPG-2493	3.2.1.4.1.0-5	(U) The CPG **shall** provide operator controls to establish track reporting filters for JRE to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity		MO	Build 4	N
CPG-2494	3.2.1.4.1.0-6	(U) The CPG **shall** provide operator controls to establish track reporting filters for IBS to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity		MO	Build 4	N
CPG-2496	3.2.1.4.1.0-7	(U) The CPG **shall** provide operator controls to establish track reporting filters for HE(FO) (ABCS) to include the following non-mutually exclusive criteria: a. (U) geographic areas of interest b. (U) track category c. (U) track identity		MS	Build 2 - IOC Build 3b - ABT Build 4 - SMT, LCR, TBM	N
CPG-391	3.2.1.4.1.0-8	(U) The CPG **shall** load communications equipment with selected configuration parameters upon operator command.		MO, DPM	Build 3b except for MBMMR	N
CPG-392	3.2.1.4.1.0-9	(U) The CPG **shall** enable the operator to direct the United States Message Text Format/Extensible Markup Language (USMTF/XML), SIPRNET Application, and Non-Classified Internet Protocol Router Network (NIPRNET) Application messages to the external connections. This is to support multiple-paths of the mission-		MS, DPM	Build 2 - IOC Build 3b - ABT Build 4 - SMT, LCR,	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		supplied Military Satellite Communications (MILSATCOM) and/or terrestrial communications. MILSATCOM includes Ultra High Frequency (UHF), Super High Frequency (SHF), and Extreme High Frequency (EHF) Communications. Terrestrial communications include Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) and landlines.			TBM	
CPG-393	3.2.1.4.1.0-10	(U) The CPG **shall** enable the operator to direct JREAP messages to onboard SATCOM and to external connections. External connections support multiple-paths of the mission-supplied MILSATCOM and/or terrestrial communications. MILSATCOM includes UHF, SHF, and EHF communications. Terrestrial communications include IP-based radios and landlines.		MO, DPM	Build 4	N
CPG-395	3.2.1.4.2.0-1	b(3)	CCNP, CCP			N
CPG-396	3.2.1.4.2.0-2	b(3)	CCCS			N
CPG-397	3.2.1.4.2.0-3	b(3)		MO, DPM	Build 3b	N
CPG-2469	3.2.1.4.2.0-4	b(3) a. b(3) b. b(3) c. b(3) d. b(3) b(3)	CCCS, CCP	MO, DPM	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-398	3.2.1.4.2.0-5	b(3)	CCP			N
CPG-2586	3.2.1.5.1.0-1	(U) The CPG **shall** forward mission profile updates to the radar only when the radar is in an operational state.		MO	Build 3a	N
CPG-403	3.2.1.5.1.0-2	(U) The CPG **shall** send a selected mission profile within b(3) to the radar upon operator command.		MO, MS	Build 3a - functionality Build 4 - performance	N
CPG-404	3.2.1.5.1.0-3	(U) The CPG **shall** provide an indication when the associated radar is safe to radiate.		MO	Build 3a	SR
CPG-405	3.2.1.5.1.0-4	(U) The CPG **shall** provide an indication when the associated radar has reached the last commanded state.		MO	Build 3a	SR
CPG-406	3.2.1.5.1.0-5	(U) The CPG **shall** require two or more unique, sequential operator actions to initiate safety critical functions for the associated radar.		MO	Build 3a	SC
CPG-407	3.2.1.5.1.0-6	(U) The CPG **shall** enable the operator to command the radar to transition between radar states.		MO, DPM	Build 3a	SR
CPG-408	3.2.1.5.1.0-7	(U) The CPG **shall** command selectable EMCON controls to the associated radar b(3)		MO	Build 3a	N
CPG-410	3.2.1.5.1.0-8	(U) The CPG **shall** alert the operator if both the associated radar transponder and the Platform transponder are enabled.		MO	Build 4	N
CPG-2395	3.2.1.5.1.0-9	(U) The CPG **shall** alert the operator if neither the associated radar transponder nor the Platform transponder is enabled.		MO	Build 4	SR
CPG-413	3.2.1.5.1.0-10	b(3)		MO, DPM	Build 3a	N
CPG-414	3.2.1.5.1.0-11	b(3)		MS	Build 3a	N
CPG-417	3.2.1.5.2.0-1	(U) The SuS CPG **shall** enable the operator to command incremental reduction of peak radiated power in		MS	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		azimuth sectors.				
CPG-2684	3.2.1.5.2.0-2	(U) The SuS CPG **shall** provide controls to enable the operator to prevent radiation in specified azimuth sector.		MS	Build 3a	SC
CPG-419	3.2.1.5.3.0-1	(U) The FCS CPG **shall** manage radar tasking to ensure that the operating limits for the reported available radar resources are not exceeded based on the following considerations: a. (U) nominal percentage usage schedule based on available resources; b. (U) ability to task for limited periods of time above the nominal; and c. (U) account for recovery periods after overtasking		MO	Build 3a Nominal Capability Build 4 for exceeding nominal and recovery	SR
CPG-423	3.2.1.5.3.0-2	(U) The FCS CPG **shall** rebuild the radar task schedule in response to an operator action. The rebuilt schedule will account for the operator commanded action, previously commanded on-going actions, and current engagement support plans.		MO	Build 3a	N
CPG-2587	3.2.1.5.3.0-3	(U) The FCS CPG **shall** command the radar to provide track update [redacted] b(3) [redacted]		MO	Build 4	N
CPG-428	3.2.1.5.3.0-4	(U) The FCS CPG **shall** enable the operator to view an overlay showing the current FCR azimuth field of view on the situation display.		MO	Build 3a	N
CPG-429	3.2.1.5.3.0-5	(U) The FCS CPG **shall** enable the operator to assess a proposed pointing adjustment by providing indications that include: a. (U) the projected time to slew b. (U) projected new area of coverage		MO	Build 4	N
CPG-434	3.2.1.5.3.0-6	(U) The FCS CPG **shall** recommend to the operator when an FCR pointing adjustment is necessary to address the cases of a) the radar hitting physical rotation limit, and b) aerostat motion prevents the radar from keeping PTL. The		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		CPG operator will take an action that balances current activities with the need to keep the FCR supporting the mission.				
CPG-435	3.2.1.5.3.0-7	(U) The FCS CPG **shall** enable the operator to command an azimuth slew to the FCR.		MO, MS	Build 3a	N
CPG-2646	3.2.1.5.3.0-8	(U) The FCS CPG **shall** require a separate operator override to perform a slew that conflicts with an engagement support plan.		MO	Build 4	N
CPG-436	3.2.1.5.3.0-9	(U) The FCS CPG **shall** display the progress of a commanded azimuth slew.		MO	Build 3a	N
CPG-437	3.2.1.5.3.0-10	(U) The FCS CPG **shall** provide the interface to allow the operator to assess the current orientation of the coverage area of the FCR with regard to supporting assigned missions. The orientation assessment should consider the following items: a. (U) Azimuth offset from planned azimuth primary threat line and sector bounds b. (U) Elevation offset from planned elevation center line c. (U) Radar field of view		MO	Build 4	N
CPG-441	3.2.1.5.3.0-11	(U) The FCS CPG **shall** manage radar tasks in accordance with the CPG assigned priorities.		MO, MS	Build 3a Build 4	N
CPG-442	3.2.1.5.3.0-12	(U) The FCS CPG **shall** provide tasking commands to the radar.		MO	Build 3a	N
CPG-445	3.2.1.6.1.0-1	[redacted] b(3)	CCNP	MO	Build 3a	N
CPG-2399	3.2.1.6.1.0-2	(U) The CPG **shall** automatically initiate system tracks on local tracks which do not correlate to existing system tracks.		MO	Build 3a	N
CPG-446	3.2.1.6.1.0-3	(U) The CPG **shall** maintain the following on a per-track basis, if available: a. (U) position and velocity b. (U) time associated with track validity		MO	Build 3a - ABT Build 4 - ABT, SMT, LCR,	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		c. (U) covariance data d. (U) identification e. (U) correlated IFF responses f. (U) air space interaction data g. **b(3)** [redacted] h. (U) correlated track numbers i. (U) track history, including position, identity, category, platform, and specific type information j. (U) LPEs for TBMs and LCRs k. (U) simulated track indicator			TBM	
CPG-2434	3.2.1.6.1.0-4	(U) The CPG **shall** maintain the level of precision for track data as provided by the track source.		MO	Build 3a	N
CPG-459	3.2.1.6.1.0-5	(U) The CPG **shall** maintain the position and velocity in system coordinates based on the World Geodetic Survey (WGS)-84 earth model.		MO	Build 2	N
CPG-2552	3.2.1.6.1.0-6	(U) The CPG **shall** geodetically align the associated radar data using the location of self reporting units.		MO	Build 3b	N
CPG-2553	3.2.1.6.1.0-7	(U) The CPG **shall** align the external system track data from a. (U) CEC b. (U) Link-16 c. (U) JRE to the geodetically aligned radar track data.		MO	Build 3b - Link-16 and CEC Build 4 - JRE	N
CPG-463	3.2.1.6.1.0-8	(U) The CPG **shall** purge a source track from the database and reconstitute the platform type, specific type, and identification data of the remaining correlated source tracks when a drop track message is received or a track is no longer updated by the source.		MO	Build 3a	N
CPG-465	3.2.1.6.2.0-1	(U) The CPG **shall** correlate and decorrelate the following in order to contribute to the Single Integrated Air Picture (SIAP): a. (U) local tracks with		MO	Build 2 - IOC Build 3b - ABT Build 4 -	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		Link-16/JRE tracks in accordance with Reference [2]; b. b(3) [redacted] c. (U) local tracks with CEC tracks			SMT, LCR, TBM, JRE, **IBS**	
CPG-469	3.2.1.6.2.0-2	(U) The CPG, upon correlation events, **shall** assess the platform type, specific type, and identification data of source tracks in a manner consistent with rules of the corresponding external links.		MO	Build 3b - ABT Build 4 - SMT, LCR, TBM, JRE, IBS	N
CPG-470	3.2.1.6.2.0-3	(U) The CPG, upon decorrelation events, **shall** reconstitute the platform type, specific type, and identification data of the source tracks.		MO	Build 3a - ABT Build 4 - SMT, LCR, TBM, JRE, IBS	N
CPG-471	3.2.1.6.2.0-4	(U) The CPG **shall** support modification of correlation threshold parameters as defined in Reference [2].		MO	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-2478	3.2.1.7.0-1	b(3) [redacted] a. b(3) [redacted] b. b(3) [redacted] c. b(3) [redacted] d. b(3) [redacted] e. b(3) [redacted] f. b(3) [redacted]		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3) g. b(3)				
CPG-2400	3.2.1.7.0-2	b(3)		MO	Build 3a	N
CPG-473	3.2.1.7.0-3	(U) The CPG **shall** exchange platform, platform activity, specific type, and identification indicators on Link-16/JRE in accordance with Reference [1]. Reference [2] provides details on Link-16 messaging.		MO	Build 3b Link-16 Build 4 JRE	N
CPG-2647	3.2.1.7.0-4	b(3)		MO	Build 4	N
CPG-474	3.2.1.7.0-5	(U) The CPG **shall** display an alert indicating a difference in track category between external and local sources that requires operator intervention.		MO	Build 3a	N
CPG-475	3.2.1.7.0-6	(U) The CPG **shall** enable the operator to change the category, platform and/or specific type of a track.		MO	Build 3a	N
CPG-2615	3.2.1.7.0-7	(U) The CPG **shall** exchange only unambiguous air specific types, as defined in Reference [1], to external links.		MO	Build 3b Link-16, CEC Build 4 JRE, IBS	N
CPG-2614	3.2.1.7.0-8	(U) The CPG **shall** exchange only unambiguous air platform, as defined in Reference [1], to external links.		MO	Build 3b Link 16, CEC Build 4 JRE, IBS	N
CPG-2652	3.2.1.8.1.0-1	(U) The CPG **shall** evaluate a local ID against the external data link ID to determine the CPG recommended reportable identification.		MO	Build 4	N
CPG-479	3.2.1.8.1.0-2	(U) The CPG **shall** utilize the following identifications for local recommendations and exchanges with external systems: a. (U) Pending		MO	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b. (U) Assumed Friend c. (U) Friend d. (U) Unknown e. (U) Suspect f. (U) Hostile g. (U) Neutral				
CPG-487	3.2.1.8.1.0-3	(U) The CPG **shall** recommend an air track as a Friend based on the received Precise Participant Location and Identification (PPLI) correlated with the track.		MO	Build 3a	N
CPG-2650	3.2.1.8.1.0-4	(U) The CPG **shall** recommend an air track as a Friend based on the received Mode 5 IFF correlated with the track in accordance with Reference [2].		MO	Build 4	N
CPG-488	3.2.1.8.1.0-5	(U) The CPG **shall** enable the operator to set the identification of an air track.		MO	Build 3a	N
CPG-489	3.2.1.8.1.0-6	(U) The CPG **shall** recommend a local identification of a track, excluding Pending, factoring the input from the following identification sources: a. (U) Change Data Order in effect b. (U) Operator identification selection c. (U) PPLI correlation d. (U) IFF Mode 5 e. (U) Procedural Identification f. (U) Order of battle correlation		MO	Build 3a Build 4	N
CPG-2470	3.2.1.8.1.0-7	(U) The CPG **shall** allow the operator to enable/disable the air space interaction and order of battle methods for determining track identification.		MO	Build 4	N
CPG-495	3.2.1.8.1.0-8	[redacted] **b(3)** the FCS CPG **shall** establish an Order of Battle (OOB) identification.		MO	Build 3a	N
CPG-496	3.2.1.8.1.0-9	(U) The CPG **shall** exchange identification information with Link-16/JRE and set identification in		MO	Build 3b Link-16	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		accordance with Reference [1]. This includes the use of the ID Difference Resolution Table and Track Management Messages for ID Differences and Change Data Orders detailed in Reference [2].			Build 4 JRE	
CPG-2649	3.2.1.8.1.0-10	(U) The CPG **shall** exchange b(3) in accordance with Reference [1] and set identification in accordance with Reference [2].		MO	Build 4	N
CPG-2648	3.2.1.8.1.0-11	(U) The CPG **shall** exchange b(3) in accordance with Reference [1] and set identification in accordance with Reference [2].		MO	Build 3b	N
CPG-497	3.2.1.8.1.0-12	(U) The CPG **shall** display an identification conflict alert if indicated by the ID Difference Resolution Table described in Reference [1] for tracks exchanged on Link-16/JRE.		MO	Build 3b Link-16 Build 4 JRE	N
CPG-498	3.2.1.8.1.0-13	(U) The CPG **shall** display an alert indicating a difference in identification between external sources and a local air track that requires operator intervention. In b(3)		MO	Build 3b CEC Build 4 IBS	N
CPG-500	3.2.1.8.2.0-1	(U) The CPG **shall** correlate the system tracks with received valid local IFF responses.		MO	Build 3a Modes 1,2,3 A/C, 4 Build 4 Modes 5	N
CPG-501	3.2.1.8.2.0-2	(U) If an unambiguous correlation has been made between a system track and a local IFF response, the CPG **shall** update the system track data with received valid IFF responses.		MO	Build 3a	N
CPG-502	3.2.1.8.2.0-3	(U) The CPG **shall** provide an indication when an ambiguous correlation has been determined for an IFF response received from the local radar. Ambiguous correlations occur when more than one track can be associated to a single IFF response, when more than one IFF response can be correlated to a single track		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		or when no tracks correlate to the IFF response.				
CPG-503	3.2.1.8.2.0-4	(U) The CPG **shall** exchange only unambiguous local IFF data with external units.		MO	Build 3b	N
CPG-504	3.2.1.8.2.0-5	(U) The CPG **shall** provide the interface to allow the operator to request an IFF action by mode(s) on a selected track.		MO	Build 3a Modes 1,2,3 A/C, 4 Build 4 Modes 5 & S	N
CPG-505	3.2.1.8.2.0-6	(U) The CPG **shall** automatically provide IFF interrogation requests to the local radar based on the following: a. (U) Air Tracks that do not have an IFF unambiguous response b. (U) Air track is within the IFF On Line c. (U) IFF Modes are enabled and operating for the radar including Modes 1, 2, 3A, 3C, 4, and 5. d. (U) Age of the current unambiguous IFF response (local or external) is greater than an operator-selectable threshold based on mode e. (U) Age of the current ambiguous IFF response (local or external) [redacted b(3)] f. (U) IFF request prioritization		MO	Build 3a Modes 1,2,3 A/C, 4 Build 4 Modes 5 & S	N
CPG-512	3.2.1.8.2.0-7	(U) The CPG **shall** alert the operator when a Mode 4 response of Valid or Mode 5 IFF response [redacted b(3)]		MO	Build 3b Mode 4 Build 4 Mode 5	N
CPG-514	3.2.1.8.3.0-1	(U) The CPG **shall** continuously assess the procedural identification for an air track using the following sources of information: a. (U) interaction with active ACMs within the ID Authority Area (IDAA) (including volumes,		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		corridors, and safe velocity) b. (U) interaction with active origins (friendly, hostile) c. (U) responses to IFF/Selective Identification Feature (SIF) d. (U) operator-selected weights and identity thresholds				
CPG-519	3.2.1.8.3.0-2	(U) The CPG **shall** assess an air track's indicators to support a local Procedural Identification using the following: 1. (U) Weight sets for volume membership a. (U) Friendly Origin (FO) b. (U) Hostile Origin (HO) c. (U) Prohibited Volume (PV) d. (U) Restricted Volume (RV) e. (U) Safe passage Corridor (SPC) 2. (U) Weight set for Velocity test a. (U) Safe Velocity (SV) 3. (U) Weight sets for IFF Challenges a. (U) Interrogate Friend or Foe Mode 4 (IFF M4) b. (U) IFF Selective Identification Features (SIF)		MO	Build 4	N
CPG-2651	3.2.1.8.3.0-3	(U) The CPG **shall** maintain multiple weight sets and ID thresholds to support Procedural Identification assessment.		MS	Build 4	N
CPG-2641	3.2.1.8.3.0-4	(U) The CPG **shall** compare the summed weights with the maintained thresholds in order to support a Procedural Identification.		MO	Build 4	N
CPG-520	3.2.1.8.3.0-5	(U) The CPG **shall** enable the operator to select weight sets and thresholds and define the IDAA to support identification information development on tracks.		MO	Build 4	N
CPG-2549	3.2.1.9.0-1	**b(3)**		MO	Build 3b Build 4 for space	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3) b(3) b(3) b(3)			tracks	
CPG-523	3.2.1.9.0-2	b(3)		MO	Build 4	N
CPG-524	3.2.1.9.0-3	b(3) a. b(3) b. b(3) c. b(3) d. b(3)		MO	Build 4	N
CPG-529	3.2.1.9.0-4	(U) The CPG **shall** assess and re-order track priority on a per track basis at b(3)		MO	Build 4	N
CPG-530	3.2.1.9.0-5	b(3)		MO	Build 4	N
CPG-532	3.2.1.10.0-1	(U) The CPG **shall** report only tracks maintained by the associated radar. This prevents the system from forwarding data that may adversely affect the track picture at distant ends.		MO	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-533	3.2.1.10.0-2	b(3)	CCNP	MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-534	3.2.1.10.0-3	(U) The CPG **shall** exchange ABT data with the CEC network in accordance with Reference [1].	CCNP	MO	Build 3b	N
CPG-535	3.2.1.10.0-4	b(3)	CCNP	MO, MS	Build 4	N
CPG-536	3.2.1.10.0-5	(U) The CPG **shall** exchange ABT, TBM, LCR, and SMT data with Link-16/JRE in accordance with Reference [1] and based on enabled track filters. Reference [2] provides details on Link-16 messaging.	CCNP	MO	Build 3b - ABT Build 4 - SMT, LCR, TBM, JRE	N
CPG-537	3.2.1.10.0-6	b(3)		MO	Build 3b - ABT Build 4 - SMT, LCR, TBM, JRE	N
CPG-2653	3.2.1.10.0-7	b(3)		MO	Build 4	N
CPG-538	3.2.1.10.0-8	b(3)		MO	Build 3b - ABT Build 4 - SMT, LCR, TBM, JRE	N
CPG-2654	3.2.1.10.0-9	b(3)		MO	Build 4	N
CPG-539	3.2.1.10.0-10	b(3)		MO	Build 4	N
CPG-540	3.2.1.10.0-11	(U) The CPG **shall** notify external units when a local track is dropped.		MO	Build 3b - Link-16, CEC Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
					JRE, IBS	
CPG-2402	3.2.1.10.0-12	(U) The CPG **shall** have latency for precision tracks as defined in Appendix B.	CCNP, CCP	MO	Build 3b	N
CPG-2403	3.2.1.10.0-13	(U) The CPG **shall** have latency for surveillance tracks as defined in Appendix B.	CCNP, CCP	MO	Build 3b	N
CPG-542	3.2.1.11.0-1	(U) The CPG **shall** provide a situation display of the integrated track picture including tracks and reference points.	CCCS, CCNP	MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-2497	3.2.1.11.0-2	(U) The CPG **shall** provide a situation display of the integrated track picture to include displays or controls for: a. (U) track amplification data; b. (U) track history (i.e., trails, flight path, and point of origin); and c. (U) situational awareness tools, such as measurement references and pointers.	CCNP	MO	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-547	3.2.1.11.0-3	(U) The CPG **shall** enable three mission operators to display and simultaneously interact with the CPG tactical software via three operator workstations and a central display.	CCCS	MO	Build 3a	N
CPG-2476	3.2.1.11.0-4	(U) The CPG **shall** provide an indication on the situational display of the current training state during training operations.		MO, ET, DPM	Build 3a - ET and DPM Build 4 - MO and MS	N
CPG-548	3.2.1.11.0-5	(U) The CPG **shall** provide an indication on the situational display of the radiation state of the associated radar.		MO, DPM	Build 3a	SR
CPG-549	3.2.1.11.0-6	(U) The CPG **shall** display an integrated track picture [redacted] **b(3)** [redacted] of the following types: a. (U) air/space tracks b. (U) surface/land tracks c. (U) launch point estimates d. (U) reference point		MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		tracks				
CPG-2475	3.2.1.11.0-7	(U) The CPG **shall** differentiate the display of Embedded Trainer tracks (simulated) from non-simulated tracks in accordance with Reference [11].		MO, MS	Build 3a Build 4	SR
CPG-554	3.2.1.11.0-8	b(3)		MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-555	3.2.1.11.0-9	b(3) a. b(3) b. b(3) c. b(3) d. b(3) e. b(3) f. b(3)		MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-562	3.2.1.11.0-10	(U) The CPG **shall** enable the operator to filter the display of the simulated track symbol modifier.		MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-563	3.2.1.11.0-11	(U) The CPG **shall** enable the operator to display correlated track numbers with their track symbol.		MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-564	3.2.1.11.0-12	(U) The CPG **shall** enable the operator to display trails for all tracks and/or a subset of tracks using the selected trail length.		MO	Build 3a - ABT Build 4 - SMT, LCR, TBM	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-565	3.2.1.11.0-13	(U) The CPG **shall** enable the operator to select a trail display length for all tracks of b(3)		MO	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-566	3.2.1.11.0-14	(U) The CPG **shall** enable the operator to display the b(3) a track's path.		MO	Build 4	N
CPG-567	3.2.1.11.0-15	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include source track number mappings of correlated tracks.		MO, MS	Build 4	N
CPG-2645	3.2.1.11.0-16	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track identification and supporting data, including recommended ID.		MO, MS	Build 4	N
CPG-2644	3.2.1.11.0-17	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track category, specific type, and platform type as well as supporting data.		MO, MS	Build 4	N
CPG-2498	3.2.1.11.0-18	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include contributing sources to CEC tracks.		MO	Build 4	N
CPG-2499	3.2.1.11.0-19	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track which is determined by threat priority data, including threatened asset and time to asset.		MO	Build 4	N
CPG-573	3.2.1.11.0-20	(U) The CPG **shall** enable the operator to query selectable display objects for attribute data.		MO, MS	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-574	3.2.1.11.0-21	(U) The CPG **shall** have a measurement reference (e.g., range rings, ruler, grid toggle) for items on the situational display.		MO, MS	Build 3a	N
CPG-575	3.2.1.11.0-22	(U) The CPG **shall** enable the operator to initiate a pointer exchange, including text, with external systems on Link-16/JRE.		MO	Build 3b Link-16 Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
					JRE	
CPG-576	3.2.1.11.0-23	(U) The CPG **shall** enable the operator to display and clear pointers received from external systems on Link-16/JRE.		MO	Build 3b Link-16 Build 4 JRE	N
CPG-577	3.2.1.11.0-24	The CPG **shall** provide an interface to allow the operator to selectively display: a. (U) radiation control sectors with corresponding radiation state, b. (U) radar field of view, c. (U) search regions of interest, d. (U) supported weapon systems engagement coverage, e. (U) initialization data, and f. (U) system status information.		MO, MS, DPM, HMS	Build 3a	N
CPG-582	3.2.1.11.0-25	(U) The CPG **shall** enable the operator to display the relative track priority list.		MO	Build 3a	N
CPG-583	3.2.1.11.0-26	(U) The FCS CPG **shall** enable the operator to display an indication on the tracks for which engagement support is being provided by the FCR.		MO	Build 3b	N
CPG-584	3.2.1.11.0-27	(U) The FCS CPG **shall** alert the operator when high priority tracks or tracks under engagement support will potentially exit the FCR track coverage.		MO	Build 3b - ABT Build 4 - SMT, LCR, TBM	N
CPG-585	3.2.1.11.0-28	(U) The FCS CPG **shall** display a list of currently supported engagements with engagement support plan data upon operator command.		MO	Build 3b	N
CPG-2451	3.2.1.11.0-29	(U) The FCS CPG **shall** display and update the projected target flight path for the engagement timeline for targets that are planned for engagement support and targets that a supported engagement is ongoing.		MO	Build 3b	N
CPG-586	3.2.1.11.0-30	(U) The FCS CPG **shall** provide the interface to allow the operator to designate		MO	Build 3a - ABT	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		a target for acquisition by the FCR.			Build 4 - SMT, LCR, TBM	
CPG-587	3.2.1.11.0-31	(U) The CPG **shall** enable the operator to designate tracks to be dropped by the associated radar.		MO	Build 3a - ABT Build 4 - SMT, LCR, TBM	N
CPG-2674	3.2.1.12.0-2	(U) Upon receipt of an Investigate, Shadow, and/or Precision Cue command from Link-16/JRE HEU(EO) for a track within the FOV of the radar, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the command is not associated with a local track.		MO	Build 4	N
CPG-617	3.2.1.12.0-3	(U) The FCS CPG **shall** reject Shadow commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] **b(3)** e. (U) track in the command is a ground or surface track.		MO	Build 4	N
CPG-2677	3.2.1.12.0-4	(U) The FCS CPG **shall** allow the operator to accept or reject a Shadow, Investigate and/or Precision Cue command if the following apply: a. (U) the command was not automatically rejected [redacted] **b(3)**		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b. (U) auto accept is disabled.				
CPG-2676	3.2.1.12.0-5	(U) The FCS CPG **shall** automatically accept Shadow, Investigate, and/or Precision Cue commands if the following apply: a. (U) the command was not automatically rejected [redacted] **b(3)** b. (U) auto accept is enabled.		MO	Build 4	N
CPG-2675	3.2.1.12.0-6	(U) The FCS CPG **shall** reject Investigate commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] **b(3)** e. (U) track in the command is a ground or surface track f. (U) radar resources are fully utilized with tasks of higher priority.		MO	Build 4	N
CPG-622	3.2.1.12.0-7	(U) The FCS CPG **shall** allow the operator to enable/disable the automatic acceptance of Link-16/JRE HEU(EO) Shadow, Investigate, and/or Precision Cue commands.		MO	Build 4	N
CPG-623	3.2.1.12.0-8	(U) The FCS CPG **shall** indicate to the operator if the Link-16/JRE HEU(EO) Shadow or Investigate command is for a track that is outside the current field of view of the FCR. The operator has the responsibility to request FCR pointing adjustments.		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-624	3.2.1.12.0-9	(U) Upon acceptance of the Shadow command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to the Link-16/JRE HEU(EO), and b. (U) set the track priority within the CPG Designated priority level.		MO	Build 4	N
CPG-628	3.2.1.12.0-10	(U) The CPG **shall** alert the operator if the Shadow, Investigate, and/or Precision Cue command was automatically rejected.		MO	Build 4	N
CPG-629	3.2.1.12.0-11	(U) Upon acceptance of the Investigate command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to the Link-16/JRE HEU(EO), b. (U) set the track priority in the CPG-Designated priority level, c. [redacted b(3)] d. (U) command IFF interrogation on the track.		MO	Build 4	N
CPG-2483	3.2.1.12.0-12	(U) Upon acceptance of a Cease Engage command, for a Shadow and/or Investigate function, the FCS CPG **shall** perform the following: a. (U) cancel [redacted b(3)] with the radar, b. (U) modify the track priority based on the prioritization logic, and c. (U) re-order the CPG [redacted b(3)] queues.		MO	Build 4	N
CPG-635	3.2.1.12.0-13	(U) Upon rejection of a command from Link-16/JRE HEU(EO), the FCS CPG **shall** report that it Cannot Comply to the Link-16/JRE HEU(EO).		MO	Build 4	N
CPG-2673	3.2.1.12.0-14	(U) Upon acceptance of a Precision Cue command, the FCS CPG **shall** perform the following: a. (U) report acceptance of		MO	Build 3b	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		the command to Link-16 b. (U) set the track priority to Precision Cue within CPG Designated priority level.				
CPG-2672	3.2.1.12.0-15	(U) The FCS CPG **shall** automatically reject Precision Cue commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] b(3) e. (U) track in the command is a ground or surface track f [redacted] b(3) g. [redacted] b(3)		MO	Build 3b	N
CPG-590	3.2.1.13.1.0-1	(U) The FCS CPG **shall** provide engagement support coordination between external weapons systems and the FCR to include assessments of weapon system requests; assessment of radar and communication resources; accounting for track priorities; and responding to the weapon system.		MO	Build 3b	N
CPG-2404	3.2.1.13.1.0-2	(U) The CPG **shall** have an engagement support interface to Link-16. Note: The interface is specified in Appendix B.		MO	Build 3	N
CPG-591	3.2.1.13.1.0-3	(U) The CPG **shall** have an engagement support interface to CEC defined in accordance with Reference [31].		MO	Build 4	N
CPG-592	3.2.1.13.1.0-4	(U) The CPG **shall** determine whether it can support the requested engagement in [redacted] b(3)		MO	Build 3b	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3)				
CPG-2655	3.2.1.13.1.0-5	(U) Upon receipt of a request for engagement support, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the request is not maintained in the local track database and if the track is in the field of view of the FCR.		MO	Build 4	N
CPG-593	3.2.1.13.1.0-6	(U) If the cued acquisition of a non-locally held track does not result in a local track within the time period, in accordance with Reference [2a], the FCS CPG **shall** reject the engagement support request.		MO	Build 3b	N
CPG-594	3.2.1.13.1.0-7	(U) The FCS CPG **shall** automatically determine the ability to support individual engagements based on received engagement support requests. The ability to support engagements considers the following for the engagement timeline identified: a. (U) the track will remain in FCR coverage b. b(3) c. (U) the accuracy of the track is sufficient for the weapon system request d. b(3)		MO	Build 3b	N
CPG-599	3.2.1.13.1.0-8	(U) Once the ability to support an engagement has been established, the FCS CPG **shall** automatically accept the request.		MO	Build 3b	N
CPG-600	3.2.1.13.1.0-9	(U) The FCS CPG **shall** alert the operator and reject an engagement support request if the request cannot be supported by the FCR or communication resources and the requested track is of equal or lower priority than currently scheduled engagements.		MO	Build 3b	N
CPG-2599	3.2.1.13.1.0-10	(U) The FCS CPG **shall** prioritize on-going engagements over future scheduled engagements. On-going engagements will		MO	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		not be pre-empted unless otherwise directed.				
CPG-601	3.2.1.13.1.0-11	(U) The FCS CPG **shall** provide an engagement support recommendation and alternatives when an engagement support request cannot be supported by the FCR or communication resources.		MO	Build 4	N
CPG-608	3.2.1.13.1.0-13	(U) The FCS CPG **shall** provide b(3) for the operator to select from the engagement support recommendation and the alternatives.		MO	Build 4	N
CPG-609	3.2.1.13.1.0-14	(U) The FCS CPG **shall** perform the tasks corresponding to the operator accepted course of action or the timed out recommendation, whichever occurs first.		MO	Build 4	N
CPG-610	3.2.1.13.1.0-15	(U) The FCS CPG **shall** initiate a termination of engagement support for currently supported lower priority targets that were pre-empted by the acceptance of a higher-priority engagement.		MO	Build 4	N
CPG-611	3.2.1.13.1.0-16	(U) The FCS CPG shall send an acceptance offer b(3) for engagement support requests b(3) that the FCS will support. The acceptance offer will include the timeline that will be supported by the FCS.		MO	Build 3b	N
CPG-637	3.2.1.13.2.0-1	(U) The CPG **shall** build an Engagement Support Plan for a received acceptance from a weapon system of an engagement support offer to include the following: a. (U) projected interceptor launch time b. (U) target track number c. (U) data rates needed d. (U) time changes for data rates e. (U) acquisition and track of interceptor required		MO	Build 3b	N
CPG-643	3.2.1.13.2.0-2	(U) The FCS CPG **shall** perform multiple simultaneous Engagement Support Plans b(3)		MO	Build 3b	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-644	3.2.1.13.2.0-3	(U) The CPG **shall** task the FCR to support each engagement according to the Engagement Support Plan.		MO	Build 3b	N
CPG-646	3.2.1.13.2.0-4	(U) The CPG **shall** initiate an FCR cued acquisition of the interceptor using received state vectors in accordance with the Engagement Support Plan. The Engagement Support Plan includes whether or not interceptor tracking is necessary.		MO	Build 3b	N
CPG-649	3.2.1.13.2.0-5	(U) The CPG **shall** transmit target information to the network according to the Engagement Support Plan.		MO	Build 3b	N
CPG-650	3.2.1.13.2.0-6	(U) The CPG **shall** provide interceptor track data to the engaging weapons system according to the Engagement Support Plan.		MO	Build 3b	N
CPG-2657	3.2.1.13.3.0-1	(U) The CPG **shall** automatically terminate engagement support a. (U) upon end of contract with the weapon system, b. (U) upon weapon system notification to terminate contract, or c. (U) of the lowest priority scheduled, but not on-going engagement, upon acceptance of an on-going engagement contract extension, [redacted] b(3)		MO	Build 3b	N
CPG-652	3.2.1.13.3.0-2	(U) The CPG **shall** allow the operator to select an engagement and manually terminate support for the engagement.		MO	Build 3b	N
CPG-653	3.2.1.13.3.0-3	(U) The CPG **shall** command the radar to pre-engagement priority and cancel [redacted] b(3) actions on a track due to the termination of engagement support of a target.		MO	Build 3b	N
CPG-654	3.2.1.13.3.0-4	(U) The CPG **shall** notify supported weapons systems when it must terminate engagement support.		MO	Build 3b	N
CPG-2658	3.2.1.13.3.0-5	(U) The CPG **shall** notify the operator upon termination of engagement support.		MO	Build 3b	N
CPG-656	3.2.1.14.0-1	(U) The CPG **shall** provide the functionality to allow at least three	CCCS	HMS	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		operators to simultaneously display and control the content detail level of the operational health status and operating condition information.				
CPG-657	3.2.1.14.0-2	(U) The CPG **shall** collect, assess, and display operational health as reported by the associated Platform and the associated radar.	CCNP	MO, ET, DPM, HMS	Build 3a	N
CPG-658	3.2.1.14.0-3	(U) The CPG **shall** collect, assess, and display operational health for the CPG to include the following: a. (U) processors b. (U) consoles c. (U) local area network backbone and routers d. (U) storage media e. (U) data communications radios f. (U) peripherals	CCCS, CDSS, CCNP, CCP, CPWR	MO, DPM, HMS	Build 3a	N
CPG-665	3.2.1.14.0-4	(U) The CPG **shall** collect, assess, and display summary-level operational health and operating condition for the System and associated prime items.		ET, DPM, HMS	Build 3a	N
CPG-666	3.2.1.14.0-5	(U) The CPG assessment of operational health **shall** result in one of the following determinations: a. (U) Item is Off or has been disabled, b. (U) No statement due to incomplete or invalid information, c. (U) Item is on and fully Operational, d. (U) Item is on and is Degraded due to loss of capabilities, but can support mission or e. (U) Item is Failed and cannot support the mission. (U) Note: Items include ABCS, MIDS, CEC, b3 MBMMRs, HF radio, the associated radar, and the associated platform.		MO, MS, DPM, HMS	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-672	3.2.1.14.0-6	(U) The CPG assessments of operating condition **shall** result in one of the following determinations: a. (U) Item is Off or has been disabled, b. (U) Item is Initializing, c. (U) Item has been initialized and is Configuring, d. (U) Item has been configured and in Standby-Ready (i.e., Configuration Mode), but is Ready to become operational (Standby-Ready), or e. (U) Item has been commanded into Operation (i.e., Tactical Mode) and is executing the mission. (U) Note: Items include MIDS, CEC, b3 MBMMRs, HF radio, the associated radar, and the associated platform.		MO, DPM, HMS	Build 3a	N
CPG-678	3.2.1.14.0-7	(U) The CPG **shall** collect and display the applicable system external data link status for the following data links: a. (U) Link-16 b. (U) JRE c. (U) CEC d. (U) IBS e. (U) HE(FO) b3 f. (U) GPS		MO, MS, DPM, HMS	Build 3b Link-16, CEC, GPS Build 4 JRE, IBS, ABCS	N
CPG-685	3.2.1.14.0-8	(U) The CPG **shall** collect and display the applicable CPG internal link status of Off, Active, Degraded, or Failed for the following links: a. (U) MIDS LVT-2 in the CP b. (U) MBMMR Serial Link for JRE c. (U) CEP d. b3 e. (U) LAN GPS		MO, DPM, HMS	Build 3b MIDS, CEP, GPS Build 4 MBMMR, b3	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		f. (U) SIPRNET g. (U) NIPRNET				
CPG-691	3.2.1.14.0-9	(U) The CPG **shall** collect and display the CPG data link status of Off, Active, or Failed for the following data links: a. (U) Associated Radar SDP b. (U) MMS/Aerostat/Flight Director (FD) c. (U) Power Conversion and Distribution System (PCDS)		MO, DPM, HMS	Build 3b	N
CPG-696	3.2.1.14.0-10	(U) The CPG **shall** alert the operator to a change in the operational health and operating condition of the System and Prime Items.		DPM, HMS	Build 3b	SR
CPG-697	3.2.1.14.0-11	(U) The CPG **shall** alert the operator to changes in internal and external link status.		HMS	Build 3b	N
CPG-698	3.2.1.14.0-12	(U) The CPG **shall** report the operational health and operating condition of the System to ABCS in accordance with Reference [1].		MS, HMS	Build 4 ABCS	N
CPG-2490	3.2.1.14.0-13	(U) The CPG **shall** report the operational health and operating condition of the System to Link-16 in accordance with Reference [1].		MO, HMS	Build 3b Link-16	N
CPG-2491	3.2.1.14.0-14	(U) The CPG **shall** report the operational health and operating condition of the System to JRE in accordance with Reference [1].		MO, HMS	Build 4 JRE	N
CPG-2492	3.2.1.14.0-15	(U) The CPG **shall** report the operational health and operating condition of the System to CEP in accordance with Reference [1].		MO, HMS	Build 3b CEP	N
CPG-2670	3.2.1.14.0-16	(U) The CPG **shall** report the operational health and operating condition of the System to IBS in accordance with Reference [1].		MO, HMS	Build 4	N
CPG-2685	3.2.1.14.0-17	(U) The CPG **shall** enable the operator to access radar system hardware configuration data.		HMS	Build 4	N
CPG-700	3.2.1.15.0-1	(U) The CPG **shall** automatically record, **b(3)** a set of	CCNP	DPM, HMS	Build 3a Basic capabilitie	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		data to include the following: a. (U) system operational health and operational condition b. (U) track data including supporting data for measurements, covariance, category, platform, specific type, and identification c. (U) engagement support actions d. (U) operator interventions and commands e. (U) enacted Mission Plans f. (U) enacted Mission Profiles g. (U) IFF responses with position h. (U) CPG operational health data and faults detected i. (U) messages to and from the associated radar j. (U) messages to and from the associated platform k. (U) security and authentication logs l. (U) prognostics reports (U) Note: These items cannot be disabled by the operator.			s Build 3b Link 16, CEC Build 4 JRE Build 5 - Prognostics	
CPG-2681	3.2.1.15.0-2	(U) The CPG **shall** automatically record a set of data to include the following: a. (U) initialization parameters b. (U) changed parameters c. (U) operator interventions and commands d. (U) external link message traffic for Link-16, and CEC e. (U) track data including supporting data for measurements, covariance, category, platform, specific	CCNP	DPM, HMS	Build 3a Basic capabilities Build 3b Link 16, CEC Build 4 JRE Build 5 - Prognostics	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		type, and identification f. (U) status g. (U) CID-related products (received from the radar) h. (U) organic weather data (U) Note: These items cannot be disabled by the operator.				
CPG-2396	3.2.1.15.0-3	(U) The CPG **shall** automatically record b(3) the weather data from the local Platform weather equipment.	CCNP	DPM	Build 3a	N
CPG-716	3.2.1.15.0-4	(U) The CPG **shall** display an alert when CPG data recording media changes are needed.		DPM	Build 3b	N
CPG-2473	3.2.1.15.0-5	(U) The CPG **shall** display an alert when radar data recording media changes are needed.		MO, DPM	Build 3a	N
CPG-717	3.2.1.15.0-6	(U) The CPG **shall** display an alert if CPG data recording stops or is not running.		DPM	Build 3b	N
CPG-2474	3.2.1.15.0-7	(U) The CPG **shall** display an alert if radar data recording stops or is not running.		MO, DPM	Build 3a	N
CPG-2471	3.2.1.15.0-8	(U) The CPG **shall** have controls for CPG data recording functions.	CCNP	DPM	Build 4	N
CPG-2472	3.2.1.15.0-9	(U) The CPG **shall** have controls for radar data recording functions.	CCNP	MO, DPM	Build 3a	N
CPG-718	3.2.1.15.0-10	(U) The CPG **shall** enable the operator to select from the following additional data recording items: a. (U) external link message traffic for HE(FO) b. (U) external link message traffic for IBS.	CCNP	DPM	Build 4 Build 5 - Prognostics	N
CPG-727	3.2.1.15.0-11	(U) The CPG **shall** time stamp data as it is being recorded.		DPM	Build 3a	N
CPG-728	3.2.1.15.0-12	(U) The CPG **shall** store classified and unclassified data on independent systems.	CCNP	DPM	Build 3a	N
CPG-2412	3.2.1.15.0-13	(U) The CPG **shall** provide selective data retrieval, report formatting, and report generation via an interactive operator		DPM, HMS	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		interface.				
CPG-2413	3.2.1.15.0-14	(U) The CPG **shall** provide recorded data archival via an interactive operator interface for post mission analysis.		DPM	Build 4	N
CPG-2612	3.2.1.15.0-15	(U) The CPG **shall** store the faults detected either in non-volatile memory or on removable data storage media.	CCNP			N
CPG-2611	3.2.1.15.0-16	(U) The CPG **shall** continuously record: a. (U) intercom communications, b. (U) tactical voice communications, and c. (U) CCS voice communications [redacted] **b(3)**	CCNP	DPM	Build 3a	N
CPG-2610	3.2.1.15.0-17	(U) The CPG **shall** provide a selective voice playback capability through operator workstations.	CCNP	DPM	Build 4	N
CPG-2660	3.2.1.15.0-18	(U) The CPG **shall** allow a qualified operator to: a. (U) select the recorded voice communications to archive b. (U) select the recorded voice communications to playback.	CCNP			N
CPG-2659	3.2.1.15.0-19	(U) The CPG **shall** selectively archive up [redacted] **b(3)** of recorded voice communications to removable media.	CCNP	DPM	Build 4	N
CPG-732	3.2.1.16.1.0-1	(U) The CPG **shall** enable the operator to transition between tactical operations and training operations.		ET, DPM	Build 4	N
CPG-733	3.2.1.16.1.0-2	(U) The CPG **shall** enable the operator to select the following training modes: a. (U) **Standalone -** one or more operators participating in a simulated exercise b. (U) **Netted -** system participating in a simulated exercise within an orbit and/or with external systems [redacted] **b(3)** c. (U) **Individual -** operator-interactive tutorial modules.		ET, DPM	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-734	3.2.1.16.1.0-3	(U) The CPG **shall** provide embedded standalone and netted proficiency training for operator tasks utilizing simulated tracks.		ET	Build 3a	N
CPG-735	3.2.1.16.1.0-4	(U) The CPG **shall** generate simulated track inputs, consistent with the selected radar type, upon operator request.	CCNP	ET	Build 2	N
CPG-736	3.2.1.16.1.0-5	(U) The CPG training simulations and simulators **shall** be Distributed Interactive Simulation (DIS)/High Level Architecture (HLA) compliant.		ET	Build 2	N
CPG-737	3.2.1.16.1.0-6	(U) The CPG **shall** provide the functionality to allow the operator to implement communication controls for the DIS/HLA interface as an alternate source of simulated truth tracks for the radar models.		ET, DPM	Build 4	N
CPG-739	3.2.1.16.1.0-7	(U) The CPG embedded training **shall** operate on the tactical hardware and operate with the tactical software.	CCNP	ET	Build 3a Build 4	N
CPG-740	3.2.1.16.1.0-8	(U) The CPG **shall** provide hardware and an internet browser to access government Web-based training sites.	CCNP	DPM	Build 4	N
CPG-741	3.2.1.16.1.0-9	(U) The CPG **shall** have embedded trainers and simulators which are written in a standard language and have a modular design in order to allow for hardware and software growth potential.	CCNP	ET	Build 4	N
CPG-2477	3.2.1.16.1.0-10	(U) The CPG Embedded Trainer processing resources **shall** be isolated from tactical operational software.		MO, ET	Build 3a Build 3b Build 4	SR
CPG-742	3.2.1.16.1.0-11	(U) The CPG **shall** enable the operator to access installed interactive electronic technical manuals (IETMs).		DPM, HMS	Build 4	N
CPG-2397	3.2.1.16.1.0-12	(U) The CPG **shall** enable the operator to access installed computer based training (CBT).		DPM	Build 4	N
CPG-2678	3.2.1.16.1.0-13	(U) The CPG **shall** enable the operator to exit Embedded Training operations and switch to live operations with a single action.		MO, ET	Build 4	N
CPG-2683	3.2.1.16.1.0-14	(U) The CPG **shall,** under operator control, record mission operator GUI		ET	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		actions during embedded tactical training sessions.				
CPG-2682	3.2.1.16.1.0-15	(U) The CPG **shall,** under operator control, provide playback of recorded embedded tactical training sessions.		ET	Build 4	N
CPG-744	3.2.1.16.2.0-1	(U) The CPG **shall** continue tactical operations while allowing one or more operators to participate in sim-over-live standalone training.		MO, MS, ET, DPM	Build 4	SR
CPG-745	3.2.1.16.2.0-2	(U) The CPG **shall** suppress transmission of simulated tracks on external networks that were generated by standalone training.		MO, MS, ET	Build 3b Build 4	SR
CPG-746	3.2.1.16.2.0-3	(U) The CPG embedded training **shall** have simulated problem situations that replicate those expected to be encountered in actual mission operations.		ET	Build 4	N
CPG-2679	3.2.1.16.2.0-3.0-1	(U) In the standalone sim-over-live mode, CPG **shall** a. (U) enable each operator to select whether to interact with the live or simulated radar (Note: The simulated radar uses the same mission profile as the live radar. A mission profile is controlled by the live radar.) b. (U) enable each operator to select to view sim-only, live only, or both sim and live data, c. (U) ensure that at least one operator select live only or sim and live data, d. (U) from the operators who satisfy (c), ensure that at least one operator select to interact with the live radar, e. (U) if no operator selects the simulated radar, the simulated radar is slaved to the live radar f. (U) prevent an operator viewing sim-only to interact with live comms or the live radar, and f. (U) provide an indication of the radar type with which the operator is interacting.		MO, DPM	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-748	3.2.1.16.3.0-1	(U) The CPG **shall** provide netted training that interacts within the orbit and/or with external systems based on a coordinated scenario.		MO, MS, ET	Build 4	N
CPG-749	3.2.1.16.3.0-2	(U) The CPG **shall** exchange simulated tracks on networks, internal or external, designated to participate in the netted exercise.		MO, MS	Build 4	N
CPG-750	3.2.1.16.3.0-3	(U) The CPG **shall** be interoperable through the Joint Semi-Automated Forces (JSAF) architecture by transmitting and receiving DIS and HLA formatted data to link the live, virtual, and constructive pieces of the training arena.		MO, ET, DPM	Build 4	N
CPG-2662	3.2.1.16.3.0-4	(U) The CPG **shall** support sim-only and sim-over- live training exercises while in netted training.		MO, MS, ET, DPM	Build 4	N
CPG-752	3.2.1.16.4.0-1	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve training scenarios.		ET	Build 4	N
CPG-2642	3.2.1.16.4.0-1.0-1	(U) The CPG **shall** have storage and access for not less than 20 training scenarios.		ET	Build 4	N
CPG-753	3.2.1.16.4.0-2	(U) The CPG **shall** enable the operator or maintainer to select, initiate, and stop training sessions.		ET, DPM	Build 4	N
CPG-755	3.2.1.17.0-1	(U) Newly developed software for any CPG subsystem **shall** use track symbology consistent with Reference [12] and all other symbology consistent with Reference [11].		MO, MS, ET	Build 2 Build 3a Build 4 - ET	N
CPG-756	3.2.1.17.0-2	(U) The CPG **shall** adjust Reference [11] symbol size (i.e., display objects) to account for zooming.		MO, MS	Build 2	N
CPG-757	3.2.1.17.0-3	b(3) a. b(3) b. b(3) c. b(3)		MO, MS, ET, DPM	Build 2	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3)				
CPG-761	3.2.1.17.0-4	(U) The CPG **shall** provide a GUI containing a classified reserved alert display area at each operator position.		DPM	Build 3a	N
CPG-762	3.2.1.17.0-5	(U) The CPG **shall** use the guidance of Reference [10], section titled *Audio Displays* for production of audio signals. The audio signals are to direct the user's attention to the appropriate visual display which warns personnel of impending danger, alerts personnel to a critical change in system or equipment status, and/or reminds personnel of a critical action or actions that must be taken.	CCNP	DPM	Build 3a Build 4	SR
CPG-763	3.2.1.17.0-6	(U) The CPG software **shall** provide safety critical alerts that are distinct from routine alerts.		DPM, HMS	Build 3a Build 4	SR
CPG-764	3.2.1.17.0-7	(U) The CPG **shall** display a hazardous condition alert until acknowledged by the operator or until the hazardous condition has been terminated. Hazardous conditions may be reported by the CPG or other Prime Items.		MO, DPM	Build 3a	SR
CPG-765	3.2.1.17.0-8	(U) The CPG **shall** alert the operator to the receipt of the following warning messages from HE(FO) or HEU(EO): a. (U) Air Defense Warning b. (U) NBC Warning c. (U) TBM Warning d. (U) Threat Warning Message		MO, MS	Build 3b Link-16, ABCS Build 4 JRE	N
CPG-770	3.2.1.17.0-9	(U) The CPG **shall** enable the operator to selectively display the following overlay items: a. (U) Primary Threat Line (PTL) b. (U) Defended Assets c. (U) Air defense resources d. (U) Prohibited and Restricted Volumes		MO, MS	Build 2 - IOC Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		e. (U) Safe Passage Corridors f. (U) Friendly and Hostile Origins g. (U) Weapon Control Volumes h. (U) General Lines and Points				
CPG-779	3.2.1.17.0-10	(U) The CPG **shall** include operator controls which allow displaying tracks [redacted] b(3)		MO, MS	Build 2	N
CPG-781	3.2.1.18.0-1	(U) The CPG **shall** perform consistency checking of the mission planning and mission profile data entered by the operator. Note: Consistency checking validates the mission planning and mission profile data are consistent with prescribed directives.		MS	Build 2 - IOC Build 3a	N
CPG-783	3.2.1.18.1.0-1	(U) The CPG **shall** enable the operator to compose, send, receive, review and save computer assisted electronic text-formatted messages on the classified and unclassified networks.		MS, DPM	Build 2	N
CPG-2663	3.2.1.18.1.0-2	(U) The CPG **shall** support tactical chat capability [redacted] b(3)		MO	Build 4	N
CPG-784	3.2.1.18.1.0-3	(U) The CPG **shall** provide browsing capability on NIPRNET [redacted] b(3)		DPM	Build 2 - IOC Build 3a	N
CPG-786	3.2.1.18.2.0-1	(U) The CPG **shall** configure the Black LAN upon operator request.		DPM	Build 3a	N
CPG-787	3.2.1.18.2.0-2	(U) The CPG **shall** configure the Red LAN upon operator request.	CCNP	DPM	Build 3b	N
CPG-789	3.2.1.18.3.0-1	(U) The CPG **shall** display user information to the system administrator.	CCNP	DPM	Build 3a	N
CPG-790	3.2.1.18.3.0-2	(U) The CPG **shall** provide the capability to assign operator workstation functions automatically based on the user profile.	CCNP	DPM	Build 3a	N
CPG-791	3.2.1.18.3.0-3	(U) The CPG **shall** enable the system administrator to perform network diagnostics.	CCNP	DPM, HMS	Build 3b	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-792	3.2.1.18.3.0-4	(U) The CPG **shall** enable the system administrator to add, configure, and delete software.	CCNP	DPM	Build 4	N
CPG-793	3.2.1.18.3.0-5	(U) The CPG **shall** enable the system administrator to monitor computer performance.	CCNP	DPM	Build 3a Build 3b	N
CPG-794	3.2.1.18.3.0-6	(U) The CPG **shall** enable the system administrator to backup and restore files.	CCNP	DPM	Build 3a Build 4	N
CPG-795	3.2.1.18.3.0-7	(U) The CPG **shall** enable the system administrator to add and delete system users.		DPM	Build 3a	N
CPG-796	3.2.1.18.3.0-8	(U) The CPG **shall** enable the system administrator to configure user accounts to include access privileges and roles.		DPM	Build 3a	N
CPG-798	3.2.1.18.4.0-1	(U) The CPG **shall** synchronize to Time [redacted] b(3)		ET, DPM	Build 2 - IOC Build 3a	N
CPG-799	3.2.1.18.4.0-2	(U) The CPG **shall** provide the time synchronization to communications equipment and processing resources in accordance with Reference [1].	CCNP	MO, MS, DPM	Build 3b - Link 16, ABCS 4 - JRE, IBS	N
CPG-800	3.2.1.18.4.0-3	(U) The CPG **shall** enable the operator to enter location and time. [redacted] b(3)	CCNP	DPM	Build 2	N
CPG-801	3.2.1.18.4.0-4	(U) The CPG **shall** set CPG location coordinate data from GPS.	CCNP	MO, MS, DPM	Build 3a	SR
CPG-802	3.2.1.18.4.0-5	(U) The CPG GPS **shall** include [redacted] b(3) GPS.	CCCS, CDSS, CCNP			SR
CPG-805	3.2.1.18.5.0-1	(U) The CPG **shall** enable the operator to archive and retrieve computer assisted electronic messages, electronic mail, authentication and security logs, and local files in non-volatile memory or on removable data storage media.		DPM	Build 3a	N
CPG-806	3.2.1.18.5.0-2	(U) The CPG **shall** retain a log of archive actions.		DPM	Build 4	N
CPG-808	3.2.1.18.6.0-1	[redacted] b(3) a. [redacted] b(3)		MS	Build 2	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3) b. b(3) c. b(3)				
CPG-815	3.2.2.1.0-1	(U) The CPG software subsystems **shall** exchange data as defined by Reference [14].		MO, MS, ET, DPM, HMS	Build 2 - IOC Build 3a (details in IRS Summary Table) Build 3b Link-16, CEC, GPS Build 4 JRE, IBS, ABCS	SR
CPG-2686	3.2.2.1.0-1.0-1	b(3)		DPM	Build 3a	SR
CPG-817	3.2.2.2.0-1	(U) The CPG **shall** have a physical interface with the Platform in accordance with Reference [1].	CCCS, CDSS, CCNP, CCP, CECS			N
CPG-2582	3.2.2.2.0-2	(U) The CPG **shall** exchange data with the Platform in accordance with Reference [1].		DPM	Build 3a	N
CPG-818	3.2.2.2.0-3	(U) The SuS CPG **shall** have a physical interface with the SuR in accordance with Reference [1].	CCCS, CDSS, CCNP, CCP			N
CPG-2583	3.2.2.2.0-4	(U) The SuS CPG **shall** exchange data with the SuR in accordance with Reference [1].		MO	Build 3a Build 3b Build 4	N
CPG-819	3.2.2.2.0-5	(U) The FCS CPG **shall** have a physical interface with the FCR in accordance with Reference [1].	CCCS, CDSS, CCNP, CCP			N
CPG-2584	3.2.2.2.0-6	(U) The FCS CPG **shall** exchange data		MO	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		with the FCR in accordance with Reference [1].			Build 3b Build 4	
CPG-820	3.2.2.2.0-7	(U) The CPG **shall** exchange Link-16 messages in accordance with Reference [1]. Reference [2], Appendix W provides details on the Link-16 Minimum Implementation via an LVT-2 MIDS. The Minimum Implementation applies to PPLI, System Information Exchange and Network Management, Air Surveillance, Surface Surveillance, Land Surveillance, Space Surveillance, and Weapons Coordination and Management functions.	CCNP, CCP	MO	Build 3b	N
CPG-821	3.2.2.2.0-8	(U) The CPG **shall** interface with its HEU(EO) through JRE or Link-16 as designated for the mission.	CCNP	MO	Build 3b Link-16 Build 4 JRE	N
CPG-822	3.2.2.2.0-9	(U) The CPG **shall** exchange JREAP messages in accordance with Reference [1]. Reference [2], Appendix W; and Reference [3], Appendices A and C provide detail on the Minimum Implementation that applies to PPLI, System Information Exchange and Network Management, Air Surveillance, Surface Surveillance, Land Surveillance, Space Surveillance, and Weapons Coordination and Management functions.		MO	Build 4	N
CPG-823	3.2.2.2.0-10	(U) The CPG **shall** direct JREAP messages to the shelter port or the on-board Multi-Band Multi-Mode Radio (MBMMR) PSC-5D.	CCNP	MO	Build 4	N
CPG-824	3.2.2.2.0-11	(U) The CPG **shall** maintain communications with the Army Battle Command System (ABCS) via an interface to the b(3) located at ABCS entry point and an b(3) hosted at the CPG.	CCNP	MS	Build 2	N
CPG-825	3.2.2.2.0-12	(U) The CPG **shall** exchange USMTF messages in accordance with Reference [1]. Reference [13] provides detail on exchange of USMTF for Higher Echelon Force Operations (HE(FO)) communications.		MS	Build 2	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-826	3.2.2.2.0-13	(U) The CPG **shall** at a minimum use the Integrated Air and Missile Defense (IAMD) XML Schema, Version 1.3 for local b(3) o HE(FO) b(3) communication.		MS	Build 2 Build 3a	N
CPG-827	3.2.2.2.0-14	(U) The CPG **shall** host a Cooperative Engagement Processor (CEP) to interface to the CEC.	CCCS, CCNP, CCP			N
CPG-828	3.2.2.2.0-15	(U) The CPG **shall** exchange data in CMF in accordance with Reference [1]. Reference [4] provides detail on communication over IBS via the b(3)	CCCS, CCNP	MO	Build 4	N
CPG-829	3.2.2.2.0-16	(U) The CPG **shall** access time and position data from the Space Segement (SS) of the Global Positioning System (GPS) in accordance with Reference [1].	CCNP	DPM	Build 3a	N
CPG-830	3.2.2.2.0-17	(U) The CPG **shall** participate as a non-forwarding unit on CEC, Link-16, JRE, IBS, and ABCS simultaneously. A non-forwarding unit is one that only provides locally developed status and tracks that are maintained by the associated radar. Data from one data link is not directly transferred to the other data links.		MO, MS	Build 3b: Link-16, CEC Build 4: JRE, IBS, ABCS	N
CPG-831	3.2.2.2.0-18	(U) The CPG **shall** have connectivity for Secure Internet Protocol Router Network (SIPRNET) access.	CCCS, CCNP			N
CPG-832	3.2.2.2.0-19	(U) The CPG **shall** have connectivity for Defense Information Systems Network (DISN) Non-Classified Internet Protocol Router Network (NIPRNET) access.	CCCS, CCNP			N
CPG-833	3.2.2.2.0-20	(U) The CPG shelter **shall** have Internet Protocol (IP) connectivity for JREAP, USMTF/XML, SIPRNET Applications, and NIPRNET Applications to support external connections to mission-supplied MILSATCOM and/or terrestrial communications. MILSATCOM includes Ultra High Frequency (UHF), Super High Frequency (SHF), and Extreme High Frequency (EHF) communications. Terrestrial communications include Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) and landlines.	CCCS, CCNP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-834	3.2.2.2.0-21	(U) The CPG **shall** have no fewer than eight (8) IP connections to support: a. (U) DIS/HLA in accordance with Reference [1] b. (U) Red LAN access c. (U) Black LAN access	CCCS, CCNP			N
CPG-839	3.2.2.3.0-1	(U) The CPG **shall** provide tactical and non-tactical voice communications interfaces to the Defense Switched Network (DSN), the Public Switched Telephone Network (PSTN), and the Integrated Services Digital Network (ISDN) in accordance with Reference [1].	CCCS, CCNP			N
CPG-840	3.2.2.3.0-2	(U) The CPG **shall** provide secure non-tactical voice communications over commercial networks.	CCCS, CCNP			N
CPG-841	3.2.2.3.0-3	(U) The CPG **shall** have a UHF SATCOM interface for voice communications.	CCCS, CCNP			N
CPG-842	3.2.2.3.0-4	(U) The CPG **shall** have voice communications systems that interface to military tactical telephone systems including Secure Telephone Units (STUs) or Secure Terminal Equipment (STE).	CCCS, CCNP			N
CPG-843	3.2.2.3.0-5	(U) The CPG **shall** enable internal and external tactical voice communications via the following: a. VHF Combat Net Radio (using SINCGARS waveform) b. Signal Corps Communications assets (currently known as Warfighter Information Network-Terrestrial (WIN-T) Increment 1) c. SATCOM terminal d. HF radio e. UHF radio	CCCS, CCNP			N
CPG-849	3.2.2.3.0-6	(U) The CPG UHF radios **shall** have HAVEQUICK **b(3)** [redacted] capability.	CCNP			N
CPG-851	3.2.2.3.0-7	(U) The CPG **shall** enable the operator to monitor simultaneously two voice communication networks.	CCNP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-852	3.2.2.3.0-8	(U) The CPG **shall** enable each operator to access and control voice communications at the operator position.	CCCS, CCNP			SR
CPG-853	3.2.2.3.0-9	(U) The CPG **shall** provide two-way voice communication between the CPG shelters, the Platform Mobile Mooring Station (MMS), and the Deployable Power Generation and Distribution System (DPGDS).	CCCS, CDSS, CCNP			SR
CPG-856	3.2.3.1.0-1	(U) Each CPG shelter configured for movement **shall** weigh no more than 22,000 pounds.	CCCS, CDSS, CECS			N
CPG-857	3.2.3.1.0-2	(U) The CPG airborne equipment **shall** weigh no more than 1100 pounds packaged in two or more subsystems that can be distributed to allow for aerostat stability.	CCP			N
CPG-859	3.2.3.2.0-1	(U) The CPG **shall** have a power interface(s) with the radar ground equipment in accordance with Reference [1].	CPWR			N
CPG-860	3.2.3.2.0-2	(U) The CPG **shall** provide physical space and power distribution for all internally housed equipment that are not part of the CPG Prime Item.	CCCS, CDSS, CPWR			N
CPG-861	3.2.3.2.0-3	(U) The CPG **shall** provide required prime power to the interfacing components external to the shelter.	CCCS, CPWR			N
CPG-862	3.2.3.2.0-4	(U) The CPG **shall** b(3) to power all of the equipment permanently or temporarily installed within the shelters.	CCCS, CDSS, CCNP, CPWR, CECS			N
CPG-863	3.2.3.2.0-5	(U) The CPG **shall** include Uninterruptible Power Sources (UPSs) to support orderly shutdown in the event that power is lost, so ground based processors can be restarted, preserving the integrity of the database.	CPWR			SC
CPG-864	3.2.3.2.0-6	(U) The CPG main power **shall** be switched by the CCS, DPS, and SPS main power switches.	CPWR			SC
CPG-865	3.2.3.2.0-7	(U) The CPG **shall** operate through minor power fluctuations within the design limits of the associated JLENS power supply	CCNP, CPWR			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		specifications. i.e., Prevent inadvertent archiving or shutdown procedures.				
CPG-866	3.2.3.2.0-8	b(3)	CCP			N
CPG-868	3.2.3.3.0-1	(U) The CPG shelters **shall** use 8' or 8.5' height, 8' width, and 20' length ISO containers.	CCCS, CDSS			N
CPG-2604	3.2.3.3.0-2	(U) The CPG, while in the Transport Mode, except for CPG ISO containers or shelters which are greater than 8' by 8' by 20' in any dimension, **shall** meet the Gabarit International de Chargement (GIC) equipment gauge rail outline for rail transport. . ISO containers which differ from 8' x 8' x 20' Non-Expandable ISO Standard shelters or spare ISOs, require approval by the JLENS Government Product Manager	CCCS, CDSS			N
CPG-869	3.2.3.3.0-3	(U) The CPG shelters **shall** house the operator stations, signal data processors, and communications equipment.	CCCS, CDSS			N
CPG-870	3.2.3.3.0-4	(U) The CPG **shall** have emergency indications and related controls using the guidance of Reference [10], section titled Emergency Use.	CCCS, CDSS, CCNP, CPWR			SR
CPG-871	3.2.3.3.0-5	(U) The CPG **shall** have adjustable, ambient lighting with controls at the entrance to the shelters. Illumination is further described in Reference [22] and Reference [10], section titled *Illuminance.*	CCCS, CDSS			SR
CPG-872	3.2.3.3.0-6	(U) The CPG **shall** have spacing of connectors and controls external to the shelters that is compatible with operation in cold weather/Mission Oriented Protective Posture (MOPP) IV protective clothing as specified in Reference [10], section titled *Spacing.*	CCCS, CDSS, CCP, CPWR			SR
CPG-873	3.2.3.3.0-7	b(3)	CCCS, CDSS			N
CPG-874	3.2.3.3.0-8	(U) The CPG **shall** have interchangeable Line Replaceable Units (LRUs) as specified in Reference [10], section titled Design for Maintainability.	CCCS, CDSS, CCNP, CCP,			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
			CPWR, CECS			
CPG-875	3.2.3.3.0-9	(U) The CPG **shall** have signal entrance panel(s) at the shelter exterior to interface with tactical, non-tactical, and commercial telephone systems.	CCCS			N
CPG-876	3.2.3.3.0-10	(U) The CPG **shall** host the Flight Director SW.	CCNP			N
CPG-877	3.2.3.3.0-11	(U) The CPG **shall** host the Weather Instrumentation Subsystem SW.	CCNP			SR
CPG-878	3.2.3.3.0-12	b(3)	CCCS			SC
CPG-879	3.2.3.3.0-13	(U) The CPG **shall** provide classified print capability.	CCNP			N
CPG-880	3.2.3.3.0-14	(U) The CPG **shall** provide unclassified print capability.	CCNP			N
CPG-881	3.2.3.3.0-15	(U) The CPG **shall** provide non-secure facsimile capability.	CCNP			N
CPG-882	3.2.3.3.0-16	(U) The CPG **shall** provide secure facsimile capability.	CCNP			N
CPG-884	3.2.3.4.0-1	(U) The CPG **shall** display the temperature within all CPG shelters.	CCCS, CDSS			SR
CPG-885	3.2.3.4.0-2	(U) The CPG **shall** provide occupant control of the temperature within the CPG shelters.	CCCS, CDSS, CECS			SR
CPG-887	3.2.3.5.0-1	(U) The CPG **shall** provide a protected environment for all internally housed equipment that is not part of the CPG Prime Item.	CCCS, CDSS, CECS			N
CPG-897	3.2.4.1.0-1	b(3)	CCCS, CDSS, CCNP, CPWR, CECS			N
CPG-898	3.2.4.1.0-2	b(3)	CCP			N
CPG-899	3.2.4.1.0-3	(U) The CPG airborne equipment **shall** operate not less than 30 days without	CCP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3)				
CPG-901	3.2.4.2.0-1	(U) The CPG **shall** enable the maintainer, through an integrated central control, to: a. (U) access maintenance information to include error detection, fault isolation, prime item operational health and diagnostics, CPG-level repair, logging, and prognostics b. (U) conduct maintenance actions to include diagnostics, b(3) initiate a repair action, initiate failover/recovery c. (U) access and display IETM material relevant to the component being assessed or selected maintenance action.		DPM, HMS	Build 3b - infrastructure, b(3) Build 4 - FDFI, IETM	N
CPG-905	3.2.4.2.0-2	(U) The CPG **shall** maintain and record logs for maintenance events to include: a. (U) b3 executions b. (U) fault detections c. (U) fault isolation actions d. (U) repair actions taken and information e. (U) system operational health		HMS	Build 3b - infrastructure, b(3) Build 4 - FDFI, IETM	N
CPG-911	3.2.4.2.0-3	(U) The CPG **shall** detect all mission critical failures using a combination of b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS	HMS	Build 3b	N
CPG-912	3.2.4.2.0-4	(U) The CPG **shall** enable the operator to access the system failover/recovery capabilities necessary to support mission critical functions.		DPM	Build 4	SR
CPG-913	3.2.4.2.0-5	(U) The CPG **shall** enable the operator to access and initiate radar maintenance functions.		MO, DPM, HMS	Build 3b	N
CPG-914	3.2.4.2.0-6	(U) The CPG **shall** display results of operator initiated radar diagnostics.		HMS	Build 3b	N
CPG-916	3.2.4.3.0-1	(U) The CPG **shall** meet all operational		MS	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		performance requirements as described in this document, section titled *Performance Characteristics,* b(3)				
CPG-917	3.2.4.3.0-2	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS	HMS	Build 3b	N
CPG-918	3.2.4.3.0-3	b(3)		HMS	Build 3b	N
CPG-919	3.2.4.3.0-4	b(3)	CCP			N
CPG-920	3.2.4.3.0-5	b(3)		MO, DPM, HMS	Build 4	N
CPG-921	3.2.4.3.0-6	b(3)		MO, DPM, HMS	Build 3b	SR
CPG-922	3.2.4.3.0-7	(U) The CPG **shall** continue to meet mission critical functions as described in this document, section titled *Performance Characteristics* b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-923	3.2.4.3.0-8	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS	HMS	Build 3a	N
CPG-924	3.2.4.3.0-9	(U) The CPG **shall** enable the operator to initiate fault isolation diagnostics on CPG subsystems.		DPM, HMS	Build 4	N
CPG-925	3.2.4.3.0-10	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS	HMS	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-927	3.2.4.4.0-1	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-928	3.2.4.4.0-2	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-929	3.2.4.4.0-3	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-930	3.2.4.4.0-4	(U) CPG integrated maintenance **shall** require no more than a single data entry of repair action information.		HMS	Build 4	N
CPG-932	3.2.4.5.0-1	(U) The CPG **shall** collect data that can be used for prognostics from the CPG, the associated Platform, and the associated radar.	CCCS, CDSS, CCNP, CCP, CPWR, CECS	MO, DPM, HMS	Build 3b	N
CPG-933	3.2.4.5.0-2	b(3)		HMS	Build 5	N
CPG-934	3.2.4.5.0-3	(U) The CPG **shall** alert the operator to impending faults and failures of components resulting from the predictions of the prognostic functions.		HMS	Build 5	N
CPG-935	3.2.4.5.0-4	(U) The CPG **shall** enable the operator to display system prognostic data.		HMS	Build 5	N
CPG-939	3.2.5.1.1.0-1	(U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N

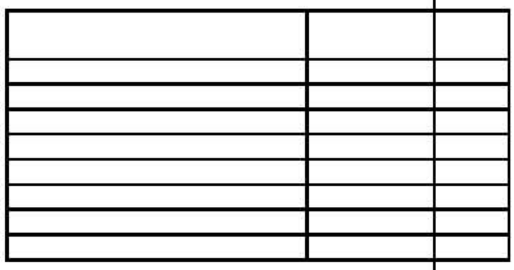
UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3) Temperature as a function of altitude is provided in Reference [19], Appendix F.				
CPG-940	3.2.5.1.1.0-2	(U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after b(3) transport, with the allowance of environmental kits and procedures for temperature extremes.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-942	3.2.5.1.2.0-1	(U) The CPG, while operational, **shall** meet the performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, during exposure to a relative humidity range from 3% to 100% non-condensing.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-943	3.2.5.1.2.0-2	(U) The CPG, in an appropriate operational mode, **shall** meet all performance requirements specified in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure, while in the deployment, storage, or transport configurations, to a relative humidity range from 3% to 100% non-condensing.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-945	3.2.5.1.3.0-1	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-946	3.2.5.1.3.0-2	b(3)	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-948	3.2.5.1.4.0-1	(U) The CPG, excluding GFE, **shall** survive during exposure to hail b(3) while operational.	CCCS, CDSS, CCNP, CCP, CPWR,			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
			CECS			
CPG-949	3.2.5.1.4.0-2	(U) While in the storage and transport configuration, the CPG **shall** be protected during exposure to hail **b(3)** [redacted]	CCCS, CDSS, CCP, CPWR, CECS			SR
CPG-951	3.2.5.1.5.0-1	(U) The CPG, while in the Tactical state, **shall** meet all performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, during a snow falling rate of up to 1 inch/hour.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-952	3.2.5.1.5.0-2	(U) The CPG, while operational, **shall** meet all Performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, except sensor performance, to withstand a snow load of 48.9 kilograms per square meter (10 lb/ft2).	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-953	3.2.5.1.5.0-3	(U) The CPG, while in storage and transport configurations, **shall** withstand a snow load of 97.7 kilograms per square meter (20 lb/ft²) as described in Reference [27].	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-955	3.2.5.1.6.0-1	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, when exposed to a salt atmosphere in sea locations and coastal regions. For information on salt atmospheres, see Reference [19] Appendix B.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-956	3.2.5.1.6.0-2	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to a salt atmosphere in sea locations and coastal regions while in a non-operational mode.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-957	3.2.5.1.6.0-3	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to a salt atmosphere during ocean transportation	CCCS, CDSS, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		while in the transport configuration.				
CPG-959	3.2.5.1.7.0-1	(U) The CPG, in the appropriate operational mode, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics* and *Subsystem Quality Factors,* (degraded sensor performance during operation is permitted) when exposed to blowing dust [redacted]	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-960	3.2.5.1.7.0-2	(U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in this document, section titled *Performance Characteristics,* when surface equipment exposed to blowing sand [redacted]	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-961	3.2.5.1.7.0-3	(U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in this document, section titled *Performance Characteristics,* when airborne equipment exposed to blowing sand [redacted]	CCP			N
CPG-962	3.2.5.1.7.0-4	(U) The CPG, after assembly into the appropriate operational mode, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics* and *Subsystem Quality Factors,* following exposure, while in the storage and transport configurations, to blowing dust [redacted]	CCCS, CDSS, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-963	3.2.5.1.7.0-5	(U) The CPG, after assembly into the appropriate operational mode, **shall** meet performance in 3.2.1 of this document following exposure, while configured for storage or transport, to blowing sand for b(3)	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-965	3.2.5.1.8.0-1	(U) The CPG **shall** be either composed of materials that inhibit the fungus growth or composed of materials which are protected from environments that would encourage fungus growth.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-967	3.2.5.1.9.0-1	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, while being subjected to steady state winds b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-968	3.2.5.1.9.0-2	(U) The CPG, in any state, **shall** survive an exposure to the following steady state wind conditions: a b(3) airborne components b b(3) ground equipment	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-972	3.2.5.1.10.0-1	(U) The CPG ground based equipment **shall** be protected while operational, during movement, and during storage from direct and indirect lightning b(3) in accordance with the lightning requirements of Reference [17]. Relevant sections of Reference [26] and Reference [107] can be used for guidance.	CCCS, CDSS, CCNP, CPWR, CECS			SC
CPG-2482	3.2.5.1.10.0-2	(U) The CPG airborne equipment **shall** be protected while operational, during movement, and during storage from direct and indirect lightning b(3) , including Lightning Electromagnetic Pulse	CCP			SC

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		(LEMP), in accordance with the lightning requirements of Reference [17]. Relevant sections of Reference [26] and Reference [107] can be used for guidance.				
CPG-973	3.2.5.1.10.0-3	(U) Following a near lightning strike without equipment damage, the CPG **shall** return to the state, mode and stored configuration existing prior to the strike through a controlled restart.	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-976	3.2.5.2.1.0-1	(U) The CPG, while operational, **shall** meet performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, while being subjected to vibration levels caused by operation.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-977	3.2.5.2.1.0-2	(U) The CPG, while operational, **shall** meet all performance requirements in 3.2.1 *Performance Characteristics* and 3.2.4 *Subsystem Quality Factors* following exposure to vibration levels caused by normal transportation, maintenance, or storage. Transportation includes air, ground (both road and **b(3)** rail), and sea.	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-979	3.2.5.2.2.0-1	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, applicable to that operational mode, while being subjected to shock levels caused during normal operation of that mode.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-980	3.2.5.2.2.0-2	(U) The CPG LRUs **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after the LRUs are dropped, with drop height dependent on the LRU **b(3)**	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		 while packaged in their transit containers according to the applicable documentation.				
CPG-982	3.2.5.2.3.0-1	(U) After assembly into the appropriate operational configuration, the CPG fragile components **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, **b(3)** , while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while the CPG is in the transport configuration.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-2605	3.2.5.2.3.0-2	(U) After assembly into the appropriate operational configuration, the CPG non-fragile components **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, **b(3)** , while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while CPG is in the transport configuration.	CCCS, CDSS, CCNP, CPWR, CECS			N
CPG-2551	3.2.5.2.3.0-3	(U) After assembly into the appropriate operational configuration, the CPG **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, **b(3)** , while the CPG equipment is mounted in the designated ISO shelters or ISO containers for that equipment and while CPG is in the transport configuration.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-984	3.2.5.2.4.0-1	(U) The CPG **shall** contain no electrically initiated devices (EID) or electro-explosive devices (EED).	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SC
CPG-987	3.2.5.2.5.0-1	(U) The CPG **shall** control unintentional emissions using Reference [16], Figure RE102-4 Army curve as guidance.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SC
CPG-988	3.2.5.2.5.0-2	(U) The CPG ground equipment **shall** meet all performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors* while protecting against spurious electromagnetic interference from other systems using Reference [16], Table V, Ground Army, as a guide.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-989	3.2.5.2.5.0-3	(U) Grounding and bonding on the CPG **shall** be implemented in accordance with the electrical bonding and external grounds requirements of Reference [17].	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-990	3.2.5.2.5.0-4	(U) The combination of shelter shielding and internal enclosures/shielded cables **shall** provide b(3) isolation from external electromagnetic radiation.	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-2414	3.2.5.2.5.0-5	(U) The CPG, in the appropriate operational mode, **shall** meet performance requirements in 3.2.1 Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of intra-system radiated and conducted emissions.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-2415	3.2.5.2.5.0-6	(U) The CPG airborne equipment, excluding the GPS, in the appropriate operational mode, **shall** meet performance requirements in 3.2.1 Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of spurious in-band electromagnetic interference using Reference [16] RS103 (RE102 + 20dB). GFE must be Reference [16] compliant.	CCP			N
CPG-2416	3.2.5.2.5.0-7	(U) The CPG airborne equipment,	CCP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		including the GPS, in the appropriate operational mode, **shall** meet performance requirements in 3.2. Performance Characteristics, and 3.2.4 Subsystem Quality Factors in the presence of spurious non-in-band electromagnetic interference [redacted] **b(3)** GFE must be compliant with Reference [16]. Reference [19] defines the set of in-band frequencies for antenna-connected equipment.				
CPG-2405	3.2.5.2.6.0-1	[redacted] **b(3)**	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-993	3.2.5.2.7.0-1	(U) The CPG LRUs, or equipment cabinets as appropriate, except for GFE, **shall** meet the performance requirements in this document, section titled *Performance Characteristics*, [redacted] **b(3)** (U) Note: ESD discharges directly to connector pins are not included. This only includes ESD discharges to LRUs or equipment cabinets, as appropriate.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1005	3.2.5.2.9.2.0-1	(U) The CPG airborne enclosures, for the purpose of NBC protection, **shall** protect internal equipment from contamination caused by an NBC event as described in Reference [19], section titled *Nuclear, Biological, and Chemical, Definitions.*	CCP			SC
CPG-1006	3.2.5.2.9.2.0-2	(U) All exterior surfaces of ground based equipment **shall** be painted with Chemical Agent Resistant Coating (CARC), in accordance with Reference [29], with exterior topcoat 383 Green (color 34094 of Fed-Std-595)..	CCCS, CDSS, CPWR, CECS			N
CPG-2588	3.2.5.2.9.2.0-3	(U) All exterior surfaces of non-GFE Communications Payload airborne enclosures external to both the windscreen and the aerostat **shall** be painted with Chemical Agent Resistant Coating (CARC), in accordance with Reference	CCP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		[29], with exterior topcoat white (color 37875 of Fed-Std-595).				
CPG-1007	3.2.5.2.9.2.0-4	(U) The CPG **shall** be able to withstand contamination/decontamination as described herein while in the movement configuration. Items packaged in NBC protective ISO containers are protected by the containers.	CCCS, CDSS, CPWR, CECS			N
CPG-1008	3.2.5.2.9.2.0-5	(U) Transportation enclosures which are non-GFE and delivered as part of the CPG **shall** be able to withstand contamination/decontamination described herein such that it protects the equipment contained within the enclosure.	CCCS, CDSS, CCP, CECS			N
CPG-1009	3.2.5.2.9.2.0-6	b(3)	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-1010	3.2.5.2.9.2.0-7	b(3)	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-1011	3.2.5.2.9.2.0-8	(U) The CPG, after subjection to worst case chemical and biological contamination, as specified herein, **shall** be restorable to an operational condition such that use of MOPP IV need not be continued, after being decontaminated using JLENS-specific decontamination procedures.	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-1012	3.2.5.2.9.2.0-9	(U) The CPG **shall** meet all performance requirements in this document, section titled Performance Characteristics, during and following exposure to NBC contaminants while in the Tactical mode of the Operations state and in the operations configuration.	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-1013	3.2.5.2.9.2.0-10	(U) The displays and equipment on the exterior of the CPG shelters **shall** be compatible with NBC protection and permit performance of mission-essential	CCCS, CDSS, CCP, CECS			SR

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		operations, communications, maintenance, re-supply, and decontamination tasks by personnel wearing cold weather/MOPP IV protective clothing, as described in Reference [10], sections titled *Operational Environment* and *Use with Individual Protective Equipment.*				
CPG-1014	3.2.5.2.9.2.0-11	(U) The CPG **shall** provide protection for personnel from the effects of NBC contamination, as described in Reference [19], section titled *Nuclear, Biological, and Chemical, Definitions,* by an Environmental Control System (ECS), equipped with an integrated Gas Particulate Filter Unit (GPFU) and through methodized use of an integral NBC protective entry vestibule in order to allow operation without MOPP IV gear during exposure.	CCCS, CDSS, CECS			SC
CPG-1016	3.2.6.0-1	(U) All CPG equipment external to the CCS, DPS, and SPS, in transport configuration, **shall** be packed in 8’ x 8’ x 20’ ISO containers. ISO container sizes which differ from 8’ x 8’ x 20’ require approval by the JLENS Government Product Manager.	CCCS, CDSS, CCNP, CCP, CECS			N
CPG-1018	3.2.6.1.0-1	(U) The CPG **shall** be rail transportable on **b(3)** cars.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1019	3.2.6.1.0-2	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled Performance Characteristics and Subsystem Quality Factors, after exposure to Railroad Transportation Vibrations no greater than 0.488g rms in each of the three axes as illustrated in Figure 4.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1021	3.2.6.1.0-5	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after being subjected to rail impact static equivalent loads no greater than 5.0 g longitudinal, 3.0 g vertical and	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		3.0 g lateral, incurred while in the transport configuration. This requirement applies to attachment points and bracketry.				
CPG-1023	3.2.6.2.0-1	(U) The CPG, in the transport configuration, **shall** be transportable off-road [redacted] **b(3)**	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1024	3.2.6.2.0-2	(U) The CPG, in the transport configuration, **shall** be transportable on highways defined in Reference [20] including an allowance for special permits where the limits for load, vibration, and shock are presented in Reference [19] Appendix E.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1025	3.2.6.2.0-3	(U) The CPG, in the transport configuration, **shall** be transportable on secondary roads where the limits for load, vibration, and shock are presented in Reference [19] Appendix E.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1026	3.2.6.2.0-4	(U) The CPG, in the transport configuration, **shall** be transportable on unimproved roads where the limits for load, vibration, and shock are presented in Reference [19] Appendix E. Performance expected after transport on unimproved roads is represented by the Perry Cross-Country Course No. 1. For vibration spectra profile refer to Figure 5.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1029	3.2.6.3.0-1	(U) The CPG **shall** be marine transportable in accordance with Reference [20] section titled *Water Transportation (Load on / Load off),* where load limits and vibrations are presented in Reference [19] Appendix E.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1030	3.2.6.3.0-2	(U) The CPG, while operational, **shall** meet the performance requirements in this document, sections titled *Performance Characteristics and Subsystem Quality Factors*, after exposure to the Ship Transportation vibrations no greater than 0.315 g rms longitudinal, 0.315 g rms vertical, and 0.315 g rms lateral, incurred while in the transport configuration. For	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		vibration spectra profile refer to Figure 6.				
CPG-1033	3.2.6.4.0-1	(U) The CPG **shall** be transportable via C-130 (except ISOs or shelters which are greater than 8 foot by 8 foot by 20 foot, in any dimension), C-5, and C-17 aircraft. The shock and vibrations experienced during C-130, C-5, and C-17 aircraft transport are presented in Reference [19] Appendix E.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1034	3.2.6.4.0-2	(U) The CPG **shall** operate after exposure to the transportation vibration environment defined in Figures 7 and 8 [redacted]	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1038	3.2.6.5.0-1	(U) The CPG equipment in transport configuration **shall** have lift and tie-down provisions in accordance with Reference [5].	CCCS, CDSS, CCP, CECS			SR
CPG-1039	3.2.6.5.0-2	(U) Transportation enclosures which are non-GFE and delivered as part of the Orbit **shall** protect the equipment contained within the enclosure from damage due to: a. (U) Temperatures extremes, as needed b. (U) Snow c. (U) Rain d. (U) Hail e. (U) Wind f. (U) Blowing sand g. (U) Lightning h. [redacted] i. (U) NBC as specified in section titled *Environmental Conditions* when in the transport configuration.	CCCS, CDSS, CCP, CECS			SR
CPG-1050	3.2.6.5.0-4	(U) The CPG, in the transport configuration, **shall** meet the U.S. Department of Transportation (DOT), North Atlantic Treaty Organization (NATO), and European Union (EU) Performance-Oriented Packaging (POP)	CCCS, CDSS, CCP, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		standards for unrestricted highway, rail, and sea transportation.				
CPG-2606	3.2.6.5.0-5	(U) Each JLENS unique transportation fixture onto which fragile hardware is mounted **shall** be marked with special handling procedures using Reference [32] as guidance.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1055	3.3.1.2.0-1	(U) The CPG **shall** be designed such that components containing hazardous materials listed in the EPA-17 and Class I Ozone Depleting Substances are only utilized in compliance with the JLENS Hazardous Materials Management Plan (HMMP). Note: Reference [19] Appendix A contains the aforementioned lists.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SR
CPG-1057	3.3.2.0-1	(U) The CPG **shall** have all equipments marked in accordance with Reference [7] for unique identification with the following provisos and exceptions. 1. (U) Provisos to this requirement are: a. (U) Only hardware and software items with a unit acquisition cost no less than $5,000. b. (U) All hardware items with a unit acquisition cost less than $5,000 when they are serially managed, mission critical, or controlled inventory items. 2. (U) Exceptions to this requirement are as specified in Reference [7] section titled Detailed Requirements subsection titled Exemptions: a. (U) "COTS items marked with commercial identification (firm name, logo, part number, etc.), and which present no identification difficulty may be exempt from additional marking requirements. This exemption extends to COTS items identified on a VICD." b. (U) "Parts within an assembly or a sub-assembly, that are not subject to removal, replacement, or	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		repair or" c. (U) "When parts are deemed too small for the application of complete marking in accordance with Reference [7] section titled *Machine-readable information (MRI) marking*, a logo or other abbreviated marking [will] be substituted for the design activity identification."				
CPG-1065	3.3.2.0-2	(U) The CPG **shall** have nameplates, labeling, and product marking in accordance with Reference [7].	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1073	3.3.3.1.1.0-1	(U) The CPG **shall** comply with the applicable portions of Reference [9] *Guidelines on Personnel Hazards, Flammability, and Electrical Overload Protection.*	CCCS, CDSS, CCP, CPWR, CECS			SR
CPG-1074	3.3.3.1.1.0-2	(U) The CPG **shall** allow the system to perform a function which inherently increases Mishap Probability only if one of the following conditions is satisfied: a. (U) all relevant pre-requisite safety checks are passed prior to performing the potentially hazardous function, or b. (U) the safety checks have been explicitly overridden.	CCCS, CDSS, CCP, CPWR, CECS	MO	Build 3b	SC
CPG-1077	3.3.3.1.1.0-3	(U) The CPG **shall** have emergency lighting capability upon power failure.	CCCS, CDSS, CPWR			SC
CPG-1078	3.3.3.1.1.0-4	(U) The CPG **shall** have a second egress capability.	CCCS, CDSS			SC
CPG-1079	3.3.3.1.1.0-5	(U) The CPG **shall** have lift points that are clearly labeled.	CCCS, CDSS, CCP, CECS			SC
CPG-1080	3.3.3.1.1.0-6	(U) The CPG **shall** have floor surfaces and stair and step trades that provide non-slip characteristics.	CCCS, CDSS			SC
CPG-1081	3.3.3.1.1.0-7	(U) The CPG **shall** have a configuration that prevents equipment from tipping over	CCCS, CDSS			SC

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		or falling on personnel performing operations, maintenance, or training tasks.				
CPG-1082	3.3.3.1.1.0-8	(U) The CPG **shall** use self sealing connectors for coolant lines to reduce the likelihood of coolant leakage during CPG operation and maintenance as appropriate.	CCCS, CDSS, CECS			SC
CPG-1083	3.3.3.1.1.0-9	(U) The CPG **shall** have danger and caution signs, labels, tags, and markings to warn of specific voltages, current, thermal, or physical hazards including: a. (U) Color code per Reference [100] b. (U) For potentials between 70 and 500 Volts, display "WARNING" sign and list maximum voltage c. (U) For potentials in excess of 500V, display the "DANGER" and "HIGH VOLTAGE" signs and list maximum voltage d. (U) Microwave of RF radiation warning signs, labels, or tags should be in accordance with Reference [102], Reference [103], or Reference [104].	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SR
CPG-1088	3.3.3.1.1.0-10	(U) The CPG **shall** limit acoustic noise levels in accordance with Reference [21], *Steady-State Noise, Personnel Occupied Areas.* Hearing protection may be used to reduce the levels.	CCCS, CDSS, CCNP, CPWR, CECS			SR
CPG-1089	3.3.3.1.1.0-11	(U) The CPG **shall** transition to a safe state upon completion of a hazardous condition.		MO, DPM	Build 3b	SC
CPG-1090	3.3.3.1.1.0-12	(U) If hardware safety interlocks are to be utilized by the CPG, the interlocks **shall** not be overridden by software.	CCCS, CDSS, CECS			SC
CPG-1091	3.3.3.1.1.0-13	(U) The CPG interlocks **shall** be self-resetting.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1093	3.3.3.1.2.0-1	(U) The CPG **shall** have a means to reduce the voltage at test points to less than 300V if the potential to be measured	CCCS, CDSS, CCP,			SC

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		is in excess of 300V peak.	CPWR, CECS			
CPG-1094	3.3.3.1.2.0-2	(U) The CPG assemblies which contain circuits operating at potentials in excess of 500V **shall** be completely enclosed with any access covers and plates equipped with non-bypassable interlocks that activate to shut down power.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1095	3.3.3.1.2.0-3	(U) The CPG **shall** have at least 3 barriers, to preclude accidental contact under all conditions of operation and maintenance, for all potentials between 30V and 500V.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1096	3.3.3.1.2.0-4	(U) The CPG high voltage circuits containing capacitors which store more than 0.25 joules **shall** have discharging devices unless they discharge to 30V or less within 2 seconds after power removal for maintenance purposes. Note: This does not apply to batteries.	CCCS, CDSS, CCP, CPWR, CECS			SR
CPG-1097	3.3.3.1.2.0-5	(U) The CPG **shall** have external conductive surfaces of equipment housing hazardous voltages grounded to a common static and safety ground point.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1098	3.3.3.1.2.0-6	(U) The CPG **shall** have catastrophic hazards mitigated by at least three barriers one of which must be a fail-safe device. Fail-safe device, barrier, and critical hazard are defined in Reference [28].	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1099	3.3.3.1.2.0-7	(U) The CPG **shall** have critical hazards mitigated by at least two barriers, one of which must be a fail-safe device.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1100	3.3.3.1.2.0-8	(U) The CPG **shall** have visible markings for LRUs sensitive to Electrostatic Discharge (ESD).	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SC
CPG-1101	3.3.3.1.2.0-9	(U) The CPG **shall** prevent shorting of circuits carrying more than 25A. Appropriate means may include guards and warning labels.	CCCS, CDSS, CCP, CPWR,			SC

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
			CECS			
CPG-1102	3.3.3.1.2.0-10	(U) The CPG **shall** have Ground Fault Circuit Interrupters (GFCI) for all external outlets.	CCCS, CDSS, CPWR			SC
CPG-1103	3.3.3.1.2.0-11	(U) External connectorized power sources (greater than 30V) provided by the CPG **shall** be either GFCI or interlocked. The order of precedence is: a. (U) Hardwired with metallic conduit or shielded cable with GFCI b. (U) GFCI if maximum threshold is more than 20mA c. (U) Fail-safe interlock	CCCS, CDSS, CPWR			SC
CPG-1107	3.3.3.1.2.0-12	(U) The CPG interlocks **shall** be fail-safe.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1108	3.3.3.1.2.0-13	(U) The CPG **shall** ensure that powered ends of connectors are protected from accidental contact.	CCCS, CDSS, CCP, CPWR, CECS			SR
CPG-1109	3.3.3.1.2.0-14	(U) The CPG equipment **shall** have exposed external metallic parts, surfaces, and shields, exclusive of antenna and transmission line terminals, at ground potential during normal operation as suggested in Reference [9], Guideline 1, *Ground.*	CCCS, CDSS, CCP			SC
CPG-1110	3.3.3.1.2.0-15	(U) The CPG **shall** have a point on all electrically conductive chasses that will serve as the common tie point for static and safety grounds using Reference [9], *General Guidelines for Electronic Equipment,* Guideline 1, *Ground.*	CCCS, CDSS, CCNP, CCP			SR
CPG-1111	3.3.3.1.2.0-16	(U) The CPG equipment **shall** have connectors which preclude the mismating of cables in a manner which would cause malfunction, damage to equipment or hazard to personnel. Where design considerations require plug and receptacles of similar configuration in close proximity, the mating plugs and receptacles should be	CCCS, CDSS, CCP, CPWR, CECS			SR

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		suitable coded or marked to clearly indicate the mating connectors.				
CPG-1113	3.3.3.1.3.0-1	(U) The CPG **shall** have a combination of procedures, guards, and safety devices to preclude contact with moving mechanical parts such as gears, fans, and belts during operation and maintenance.	CCCS, CDSS, CCP, CPWR, CECS			SC
CPG-1114	3.3.3.1.3.0-2	(U) The CPG **shall** have an interlock which disables mechanical motion of the CPG ECS during maintenance.	CECS			SC
CPG-1115	3.3.3.1.3.0-3	(U) The CPG equipment **shall** have door or hinged covers that are provided with stops to hold them open as appropriate.	CCCS, CDSS, CCP, CECS			SR
CPG-1116	3.3.3.1.3.0-4	(U) The CPG **shall** have physical guards to prevent inadvertent exposure of personnel to surface temperatures outside the maximum/minimum (Reference [10], section titled *Thermal Contact Hazards Table XXI,* or less than 0 degrees Celsius) except for surface temperatures induced by climactic environment.	CCCS, CDSS, CCP, CECS			SR
CPG-1118	3.3.3.1.4.0-1	(U) The CPG shelters **shall** have fire extinguishers, smoke alarms, and carbon monoxide detectors.	CCCS, CDSS			SC
CPG-1119	3.3.3.1.4.0-2	(U) The CPG UPS batteries **shall** not vent flammable gas when a single failure occurs.	CCCS, CDSS, CPWR			SC
CPG-1121	3.3.3.1.5.0-1	(U) The CPG **shall** vent battery enclosures to prevent the buildup of flammable gas, as appropriate.	CCCS, CDSS			SC
CPG-1122	3.3.3.1.5.0-2	(U) The CPG **shall** have no radioactive materials which are defined by the Nuclear Regulation Commission that have greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SC
CPG-1124	3.3.3.1.6.0-1	(U) The CPG **shall** have provisions to protect personnel and fuel against the hazards of electromagnetic radiation using Reference [106].	CCCS, CDSS, CCNP			SC
CPG-1126	3.3.3.1.7.0-1	(U) The CPG **shall** provide local emergency power shutdown capability at manned locations and shelters.	CCCS, CDSS, CPWR			SC

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-1128	3.3.3.2.0-1	(U) The CPG **shall** ensure that safety critical functions execute to completion, barring loss of power. Exiting a safety critical function gracefully can be considered executing to completion.		MO, ET, DPM, HMS	Build 3b	SC
CPG-1129	3.3.3.2.0-2	(U) The CPG **shall** display an indication of the occurrence of an exception that terminates a CPG operational sequence containing a safety critical function.		MO, ET, DPM	Build 3b	SR
CPG-1131	3.3.3.2.0-3	(U) The CPG **shall** validate the contents of software executables prior to execution and data files prior to use.		MO, DPM	Build 3b	SR
CPG-1132	3.3.3.2.0-4	(U) The CPG **shall** enable the operator to cancel a safety critical function or software function causing a hazardous condition with a single action. The single action may consist of pressing two keys, buttons, or switches simultaneously.		MO	Build 3b	SC
CPG-1133	3.3.3.2.0-5	(U) The CPG **shall** verify correct transfer of safety critical messages. Verification includes providing acknowledgements, performing cyclic redundancy checks, and checking message protocol formats.		MO	Build 3a Build 3b Build 4 Build 5	SC
CPG-1135	3.3.3.3.0-1	(U) The CPG **shall** have over temperature detection devices to mitigate overheating hazards that result in damage to the equipment over $1M.	CCCS, CDSS, CCNP			SC
CPG-1138	3.3.4.1.0-1	(U) The CPG **shall** have reach access for inserting, adjusting, and/or removing a unit or assembly as specified in Reference [10], section titled *Physical Access.*	CCCS, CDSS, CCP, CPWR, CECS			SR
CPG-1139	3.3.4.1.0-2	(U) The CPG replacement units, assemblies, and connectors **shall** meet the insertion, removal, and grip force requirement in Reference [10], section titled *Design for Maintainability.*	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-1140	3.3.4.1.0-3	(U) The CPG **shall** have visual access for corrective and preventative maintenance tasks as specified in Reference [10], section titled *Visual Access.*	CCCS, CDSS, CCP, CPWR, CECS			N
CPG-1141	3.3.4.1.0-4	(U) The CPG **shall** have access openings and clearance dimensions for inserting, adjusting, and/or removing a unit or	CCCS, CDSS, CCP,			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		assembly as specified in Reference [10], section titled *Physical Access.*	CPWR, CECS			
CPG-1142	3.3.4.1.0-5	(U) The CPG units and assemblies **shall** be configured for removal, carry, and replacement as specified in Reference [10], section titled *Weight.*	CCCS, CDSS, CCP, CPWR, CECS			SR
CPG-1143	3.3.4.1.0-6	(U) The CPG **shall** have work areas and equipment that accommodate a soldier population that ranges in stature from the 5th percentile female to the 95th percentile male as specified in Reference [10], sections titled *Physical Accommodation and Workspace Design.*	CCCS, CDSS, CCP, CECS			N
CPG-1144	3.3.4.1.0-7	(U) The CPG **shall** have workstations, controls, indicators, and Graphical User Interfaces that are mounted for seated operations as specified in Reference [10], section titled *Seated Operations.*	CCCS			N
CPG-1146	3.3.4.2.0-1	(U) The CPG **shall** provide a controlled environment that meets the temperature range, humidity range, and ventilation requirements, for operators and operation of all installed equipment within the CPG in accordance with Reference [10], sections titled *Heating, Air Conditioning, Humidity, and Ventilation.*	CCCS, CDSS, CECS			SR
CPG-1148	3.3.4.3.0-1	(U) The CPG **shall** have human-to-machine interfaces with state-of-the-art computer and display technology, excluding GFE. This requirement does not apply to non-CPG items that the CPG houses such as the Flight Director Platform software and SDP.	CCNP			N
CPG-1150	3.3.4.4.0-1	(U) The CPG **shall** have controls using the guidance of Reference [10], section titled *Controls.*	CCCS, CDSS, CCNP, CPWR, CECS			SR
CPG-1151	3.3.4.4.0-2	(U) The CPG **shall** present alerts and rejects using the guidance of Reference [10], section titled *User-Computer Interface.*		DPM	Build 3a Build 4	N
CPG-1152	3.3.4.4.0-3	(U) The CPG **shall** present visual displays using the guidance of Reference [10],	CCNP	MO, MS, ET, DPM,	Build 3a Build 3b	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		section titled *Visual Displays*.		HMS	Build 4	
CPG-1153	3.3.4.4.0-4	(U) The CPG **shall** have identifications, labels, legends, signs, and warnings using the guidance of Reference [10], section titled *Labeling,* and Reference [103].	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SR
CPG-1156	3.3.5.1.0-1	b(3)	CCNP			N
CPG-2501	3.3.5.1.0-2	(U) The CPG **shall** incorporate the security principle of least privilege.		MO, MS, ET, DPM, HMS	Build 3a Build 3b Build 4 Build 5	N
CPG-1169	3.3.5.1.0-3	(U) The CPG **shall** incorporate identification, authentication, and access controls.		DPM	Build 3b	N
CPG-2500	3.3.5.1.0-4	b(3)		MO, MS, ET, DPM, HMS	Build 3a Build 3b Build 4 Build 5	N
CPG-2505	3.3.5.1.0-5	(U) The security support structure of the CPG **shall** be isolated. Means of isolation may include the use of partitions and/or domains that control access to and integrity of hardware, software, and firmware that perform security functions.		DPM	Build 3a Build 3b Build 4 Build 5	N
CPG-1161	3.3.5.2.0-1	b(3)	CCNP			N
CPG-2585	3.3.5.2.0-2	b(3)		DPM	2-IOC, 3a, 3b, 4, 5	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(3) [redacted]				
CPG-2507	3.3.5.2.0-3	b(3) [redacted]	CCNP			N
CPG-2589	3.3.5.2.0-4	b(3) [redacted]	CCNP			N
CPG-1162	3.3.5.2.0-5	b(3) [redacted]	CCNP			N
CPG-1172	3.3.5.2.0-7	b(3) [redacted]	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1164	3.3.5.2.0-8	(U) The CPG **shall** implement virus protection for all servers, workstations, and mobile computing devices.	CCNP			N
CPG-1165	3.3.5.3.0-1	(U) The CPG **shall** incorporate boundary defense mechanisms. b(3) [redacted]	CCNP			N
CPG-1168	3.3.5.4.0-1	(U) The CPG **shall** implement locks and alarms for the protection of classified information systems in accordance with the appropriate level of classification. Information systems include processing and communications equipment.	CCCS, CDSS			N
CPG-1157	3.3.5.5.0-1	(U) The CPG **shall** provide an enclave for	CCNP			N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		unclassified information.				
CPG-1158	3.3.5.5.0-2	(U) The CPG **shall** provide an enclave for classified information.	CCNP			N
CPG-1171	3.3.5.6.0-1	[redacted] b(3)	CCP			SC
CPG-2418	3.3.5.6.0-2	(U) The CPG **shall** provide the interface to allow the operator to command the associated radar to perform a purge of non-volatile memory.		MO, DPM	Build 4	N
CPG-2398	3.3.5.6.0-3	[redacted] b(3)		DPM	Build 3a	N
CPG-1177	3.3.5.7.0-1	(U) The CPG **shall** perform configuration checks during system initialization. Note: Configuration checks are performed on the hardware to validate that the interface, network, data storage, and processing related items are present and operational.	CCNP, CCP	DPM	Build 3a	SR
CPG-2578	3.3.5.7.0-2	(U) The CPG **shall** perform configuration checks during the system initialization of the loaded software [redacted] b(3)		DPM	Build 2 - IOC Build 3a	SR
CPG-2452	3.3.5.7.0-3	(U) The CPG **shall** perform system configuration checks during an orderly system shutdown.	CCNP, CCP	DPM	Build 3a	SR
CPG-1179	3.3.5.7.0-4	(U) The CPG **shall** alert the operator upon completion of configuration checks and display the configuration check results of the CPG, associated radar, and the Platform.		MO, MS, ET, DPM	Build 2 - IOC Build 3a	N
CPG-1180	3.3.5.7.0-5	(U) The CPG **shall** enable the operator to manually acknowledge the configuration checks results of the CPG, the Platform, and the associated radar.		MO, MS, DPM	Build 2 - IOC Build 3a	N
CPG-1178	3.3.5.7.0-5.0-1	(U) Prior to transitioning the system to Tactical mode, The CPG **shall** a) have received a pass on all hardware and software configuration checks or b) have received an operator over-ride to	CCNP, CCP	MO, MS, DPM	Build 3a	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		hardware and software configuration checks that have not all passed.				
CPG-1181	3.3.5.7.0-6	(U) The CPG **shall** create and maintain a log which includes the results of the configuration checks for the CPG, the associated Platform, and the associated radar.		DPM	Build 2 - IOC Build 3	N
CPG-1182	3.3.5.7.0-7	(U) The CPG **shall** record hardware and software configuration data to the configuration log.	CCNP	MO, MS, DPM	Build 2 - IOC Build 3a	N
CPG-1185	3.3.7.0-1	(U) The CPG subsystems **shall** be designed with 50% data processing reserves for computer throughput and computer memory.	CCNP	MO, MS, ET, DPM, HMS	Build 3a - assessment Build 3b - assessment Build 4 - verification	N
CPG-1190	3.3.7.1.0-1	(U) The CPG **shall** have non-volatile data storage devices with removable media.	CCNP			N
CPG-1191	3.3.7.1.0-2	(U) The CPG classified data storage media **shall** be removable with the use of standard tools or standard equipment.	CCNP			N
CPG-1194	3.3.7.3.0-1	(U) The CPG, excluding GFE, **shall** receive and forward IPv6 packets, and interface with other systems and protocols in accordance with Reference [8].	CCNP	MS, DPM	Build 3b Build 4	N
CPG-1196	3.3.8.0-1	(U) The CPG CCS **shall** be interchangeable between the SuS and the FCS.	CCCS, CDSS, CCNP, CPWR, CECS	MO, MS, ET, DPM, HMS	Build 3a	N
CPG-1197	3.3.8.0-2	(U) The CPG airborne equipment **shall** be interchangeable between the SuS and the FCS.	CCP			N
CPG-1199	3.4.0-1	(U) The CPG design **shall** comply with the applicable information technology standards contained in the DoD Information Technology Standards Registry (DISR).		MO, MS, DPM	Build 4	N

UNCLASSIFIED						
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPG-1205	3.5.2.0-1	(U) Scheduled PMCS for the CPG that removes the system from operation **shall** be no greater than 8 hours per occurrence with the exception of maintenance which requires depot support.	CCCS, CDSS, CCNP, CCP, CPWR, CECS			N
CPG-1207	3.5.3.0-1	(U) The CPG **shall** be designed such that standard military vehicles can be used for ground transportation.	CCCS, CDSS, CCP, CECS			N
CPG-1208	3.5.3.0-2	(U) The CPG **shall** be designed to use standard military vehicles, shelters, and trailers unless the government approves justification for non-military equipment.	CCCS, CDSS, CCP, CECS			N
CPG-1210	3.5.4.0-1	(U) The CPG **shall** be designed such that standard military vehicles can be used for handling.	CCCS, CDSS, CCP, CECS			N
CPG-1211	3.5.4.0-2	(U) The CPG **shall** be designed to use military lifting and handling equipment, unless the government approves justification for non-military equipment.	CCCS, CDSS, CCP, CECS			N
CPG-1213	3.5.5.0-1	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SC
CPG-1214	3.5.5.0-2	b(3)	CCCS, CDSS, CCNP, CCP, CPWR, CECS			SC
UNCLASSIFIED						

6.5 (U) SYSTEM SPECIFICATION TRACEABILITY MATRIX

(U) See the System Specification Traceability Matrix in the CPG PIDS Appendix B.

6.6 (U) INTERNAL TRACEABILITY MATRIX

(U) INTERNAL TRACEABILITY MATRIX

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
CPG-2671	3.2.1.3.0-3	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve Mission Planning data to support JLENS operations in the absence of connectivity with HEU(FO) b(3)	305
CPG-306	3.2.1.3.0-4	(U) The CPG **shall** enable the operator to create, edit, save, and retrieve b(3) of Mission Planning data to include the following: a. (U) mission designation/identification b. (U) airspace control measures (ACMs) c. (U) weapon control volumes (WCVs) d. (U) defended assets with priority e. (U) air defense elements with needed search coverage f. (U) areas of interest (AOI) g. (U) IFF mode selections and challenge controls h. (U) track category priorities in support of the mission i. (U) known hostile specific types j. (U) known friendly specific types k. (U) known neutral specific types	305
CPG-319	3.2.1.3.0-6	(U) The CPG **shall** display notification upon receipt of new or updated operational orders of the following types: a. (U) Air Tasking Order (ATO) b. (U) Airspace Control Order (ACO) c. (U) Tactical Operations Data (TACOPDAT) d. (U) Battlefield Geometry e. (U) Operations Plan and/or Order Change (PLANORDCHG) f. (U) Order Message (ORDER)	305
CPG-326	3.2.1.3.0-7	(U) The CPG **shall** display notification upon receipt of new or updated operational planning data containing the following data elements:	305

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
		a. (U) Operational Plan b. (U) Air Defense Plan (ADP) c. (U) Defended Asset List (DAL) d. (U) Planning Periods e. (U) Prioritized DAL (PDAL) f. (U) Defense Designs g. (U) Defensive Tasks h. (U) Resources i. (U) Assets j. (U) Threats k. (U) Units l. (U) Validations	
CPG-339	3.2.1.3.0-8	(U) The CPG **shall** alert the operator upon receipt of: a. (U) Enemy Situational Awareness (ENSIT) b. (U) Operational Tasking Data Links (OPTASKLINK) c. (U) Commander's Situation Report (SITREP) d. (U) Request for Information (RI) e. (U) Response to Request for Information (RRI) f. (U) Tactical Report (TACREP)	305
CPG-346	3.2.1.3.0-9	(U) The CPG **shall** enable the operator to select and load received operational planning data and orders required for the JLENS mission into the Mission Planning database.	305
CPG-350	3.2.1.3.0-12	(U) The CPG coverage analysis **shall** enable the operator to assess communication visibility based on terrain and relative antenna height above ground level.	305
CPG-351	3.2.1.3.0-13	(U) The CPG radar coverage analysis **shall** enable the operator to assess areas of coverage considering the following: a. (U) Terrain **b(3)** b. (U) Radar type and planned altitude c. (U) System is operating standalone or as part of an orbit supporting the same mission (FCS only) d. **b(3)** e. (U) Multiple track altitudes f. (U) Radar field of view adjusted for planned sectors	305

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
		with radiation state and range g. (U) Overlap with engagement zones of supported weapons	
CPG-403	3.2.1.5.1.0-2	(U) The CPG **shall** send a selected mission profile b(3) to the radar upon operator command.	2586
CPG-2684	3.2.1.5.2.0-2	(U) The SuS CPG **shall** provide controls to enable the operator to prevent radiation in specified azimuth sector.	417
CPG-2646	3.2.1.5.3.0-8	(U) The FCS CPG **shall** require a separate operator override to perform a slew that conflicts with an engagement support plan.	435
CPG-441	3.2.1.5.3.0-11	(U) The FCS CPG **shall** manage radar tasks in accordance with the CPG assigned priorities.	2549
CPG-2478	3.2.1.7.0-1	b(3)	271
CPG-2647	3.2.1.7.0-4	b(3)	473
CPG-2649	3.2.1.8.1.0-10	(U) The CPG **shall** exchange b(3) in accordance with Reference [1] and set identification in accordance with Reference [2].	496
CPG-2648	3.2.1.8.1.0-11	(U) The CPG **shall** exchange b(3) in accordance with Reference [1] and set identification in accordance with Reference [2].	496
CPG-512	3.2.1.8.2.0-7	(U) The CPG **shall** alert the operator when a Mode 4 response of Valid or Mode 5 IFF response b(3)	501
CPG-2641	3.2.1.8.3.0-4	(U) The CPG **shall** compare the summed weights with the maintained thresholds in order to support a Procedural Identification.	519

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
CPG-523	3.2.1.9.0-2	b(3)	2549
CPG-524	3.2.1.9.0-3	b(3) a. b(3) b. b(3) c. b(3) d. b(3)	2549
CPG-529	3.2.1.9.0-4	(U) The CPG **shall** assess and re-order track priority on a per track basis b(3)	2549
CPG-530	3.2.1.9.0-5	(U) The CPG **shall** enable the operator to override the relative priority of a precision track (air or space).	2549
CPG-2653	3.2.1.10.0-7	(U) The CPG **shall** enable the operator to cease track reporting on IBS for a designated track.	537
CPG-2654	3.2.1.10.0-9	(U) The CPG **shall** enable the operator b(3) regardless of filters, for a designated track.	538
CPG-549	3.2.1.11.0-6	(U) The CPG **shall** display an integrated track picture b(3) of the following types: a. (U) air/space tracks b. (U) surface/land tracks c. (U) launch point estimates d. (U) reference point tracks	542
CPG-2475	3.2.1.11.0-7	(U) The CPG **shall** differentiate the display of Embedded Trainer tracks (simulated) from non-simulated tracks in accordance with Reference [11].	542
CPG-554	3.2.1.11.0-8	(U) The CPG **shall** display track location information including position, speed, heading and altitude.	542
CPG-555	3.2.1.11.0-9	(U) The CPG **shall** enable the operator to filter the display of tracks by criteria to include: a. (U) geographic areas of interest b. (U) identity c. (U) category (surface/land/air/space) d. (U) platform e. (U) source f. (U) simulated track indication	542

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
CPG-562	3.2.1.11.0-10	(U) The CPG **shall** enable the operator to filter the display of the simulated track symbol modifier.	542
CPG-563	3.2.1.11.0-11	(U) The CPG **shall** enable the operator to display correlated track numbers with their track symbol.	542
CPG-564	3.2.1.11.0-12	(U) The CPG **shall** enable the operator to display trails for all tracks and/or a subset of tracks using the selected trail length.	542
CPG-565	3.2.1.11.0-13	(U) The CPG **shall** enable the operator to select a trail display length for all tracks [redacted] **b(3)**	542
CPG-566	3.2.1.11.0-14	(U) The CPG **shall** enable the operator to display the [redacted] **b(3)** track's path.	542
CPG-567	3.2.1.11.0-15	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include source track number mappings of correlated tracks.	542
CPG-2645	3.2.1.11.0-16	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track identification and supporting data, including recommended ID.	567
CPG-2644	3.2.1.11.0-17	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include track category, specific type, and platform type as well as supporting data.	567
CPG-2498	3.2.1.11.0-18	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track to include contributing sources to CEC tracks.	542
CPG-2499	3.2.1.11.0-19	(U) The CPG **shall** enable the operator to view current track amplification data on a selected track which is determined by threat priority data, including threatened asset and time to asset.	542
CPG-573	3.2.1.11.0-20	(U) The CPG **shall** enable the operator to query selectable display objects for attribute data.	542
CPG-574	3.2.1.11.0-21	(U) The CPG **shall** have a measurement reference (e.g., range rings, ruler, grid toggle) for items on the situational display.	542
CPG-575	3.2.1.11.0-22	(U) The CPG **shall** enable the operator to initiate a pointer exchange, including text, with external systems on Link-16/JRE.	542
CPG-576	3.2.1.11.0-23	(U) The CPG **shall** enable the operator to display and clear pointers received from external systems on Link-16/JRE.	542
CPG-582	3.2.1.11.0-25	(U) The CPG **shall** enable the operator to display the relative track priority list.	542
CPG-583	3.2.1.11.0-26	(U) The FCS CPG **shall** enable the operator to display an indication on the tracks for which engagement support is being provided by the FCR.	542
CPG-584	3.2.1.11.0-27	(U) The FCS CPG **shall** alert the operator when high priority tracks or tracks under engagement support will potentially exit the FCR track coverage.	542

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
CPG-585	3.2.1.11.0-28	(U) The FCS CPG **shall** display a list of currently supported engagements with engagement support plan data upon operator command.	542
CPG-2451	3.2.1.11.0-29	(U) The FCS CPG **shall** display and update the projected target flight path for the engagement timeline for targets that are planned for engagement support and targets that a supported engagement is ongoing.	542
CPG-2674	3.2.1.12.0-2	(U) Upon receipt of an Investigate, Shadow, and/or Precision Cue command from Link-16/JRE HEU(EO) for a track within the FOV of the radar, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the command is not associated with a local track.	622
CPG-617	3.2.1.12.0-3	(U) The FCS CPG **shall** reject Shadow commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] b(3) [redacted] e. (U) track in the command is a ground or surface track.	622
CPG-2677	3.2.1.12.0-4	(U) The FCS CPG **shall** allow the operator to accept or reject a Shadow, Investigate and/or Precision Cue command if the following apply: a. (U) the command was not automatically rejected [redacted] b(3) b. (U) auto accept is disabled.	622
CPG-2676	3.2.1.12.0-5	(U) The FCS CPG **shall** automatically accept Shadow, Investigate, and/or Precision Cue commands if the following apply: a. (U) the command was not automatically rejected [redacted] b(3) b. (U) auto accept is enabled.	622
CPG-2675	3.2.1.12.0-6	(U) The FCS CPG **shall** reject Investigate commands from the Link-16/JRE HEU(EO) with a Cannot Process indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database	622

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
		c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired [redacted] e. (U) track in the command is a ground or surface track f. [redacted]	
CPG-623	3.2.1.12.0-8	(U) The FCS CPG **shall** indicate to the operator if the Link-16/JRE HEU(EO) Shadow or Investigate command is for a track that is outside the current field of view of the FCR. The operator has the responsibility to request FCR pointing adjustments.	622
CPG-628	3.2.1.12.0-10	(U) The CPG **shall** alert the operator if the Shadow, Investigate, and/or Precision Cue command was automatically rejected.	622
CPG-629	3.2.1.12.0-11	(U) Upon acceptance of the Investigate command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to the Link-16/JRE HEU(EO), b. (U) set the track priority in the CPG-Designated priority level, c. [redacted] and d. (U) command IFF interrogation on the track.	586
CPG-2483	3.2.1.12.0-12	(U) Upon acceptance of a Cease Engage command, for a Shadow and/or Investigate function, the FCS CPG **shall** perform the following: a. (U) cancel [redacted] with the radar, b. (U) modify the track priority based on the prioritization logic, and c. (U) re-order the CPG [redacted] queues.	622
CPG-635	3.2.1.12.0-13	(U) Upon rejection of a command from Link-16/JRE HEU(EO), the FCS CPG **shall** report that it Cannot Comply to the Link-16/JRE HEU(EO).	622
CPG-2673	3.2.1.12.0-14	(U) Upon acceptance of a Precision Cue command, the FCS CPG **shall** perform the following: a. (U) report acceptance of the command to Link-16 b. (U) set the track priority to Precision Cue within CPG Designated priority level.	622
CPG-2672	3.2.1.12.0-15	(U) The FCS CPG **shall** automatically reject Precision Cue commands from the Link-16/JRE HEU(EO) with a Cannot Process	622

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
		indication when any of the following applies: a. (U) radar is not in the tactical state b. (U) track in the command is not held in the system track database c. (U) track in the command is outside the radar FOV d. (U) track in the command is within the radar FOV but cannot be acquired b(3) [redacted] e. (U) track in the command is a ground or surface track f. b(3) [redacted] g. b(3) [redacted]	
CPG-2404	3.2.1.13.1.0-2	(U) The CPG **shall** have an engagement support interface to Link-16. Note: The interface is specified in Appendix B.	590
CPG-2655	3.2.1.13.1.0-5	(U) Upon receipt of a request for engagement support, the FCS CPG **shall** initiate an FCR cued acquisition if the track in the request is not maintained in the local track database and if the track is in the field of view of the FCR.	590
CPG-593	3.2.1.13.1.0-6	(U) If the cued acquisition of a non-locally held track does not result in a local track within the time period, in accordance with Reference [2a], the FCS CPG **shall** reject the engagement support request.	590
CPG-594	3.2.1.13.1.0-7	(U) The FCS CPG **shall** automatically determine the ability to support individual engagements based on received engagement support requests. The ability to support engagements considers the following for the engagement timeline identified: a. (U) the track will remain in FCR coverage b. b(3) [redacted] c. (U) the accuracy of the track is sufficient for the weapon system request d. b(3) [redacted]	590
CPG-599	3.2.1.13.1.0-8	(U) Once the ability to support an engagement has been established, the FCS CPG **shall** automatically accept the request.	590
CPG-600	3.2.1.13.1.0-9	(U) The FCS CPG **shall** alert the operator and reject an engagement support request if the request cannot be supported by the FCR or communication resources and the requested track is of equal or lower priority than currently scheduled engagements.	590
CPG-2599	3.2.1.13.1.0-10	(U) The FCS CPG **shall** prioritize on-going engagements over future scheduled engagements. On-going engagements will not be pre-	590

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
		empted unless otherwise directed.	
CPG-601	3.2.1.13.1.0-11	(U) The FCS CPG **shall** provide an engagement support recommendation and alternatives when an engagement support request cannot be supported by the FCR or communication resources.	590
CPG-608	3.2.1.13.1.0-13	(U) The FCS CPG **shall** provide b(3) the operator to select from the engagement support recommendation and the alternatives.	590
CPG-609	3.2.1.13.1.0-14	(U) The FCS CPG **shall** perform the tasks corresponding to the operator accepted course of action or the timed out recommendation, whichever occurs first.	590
CPG-610	3.2.1.13.1.0-15	(U) The FCS CPG **shall** initiate a termination of engagement support for currently supported lower priority targets that were pre-empted by the acceptance of a higher-priority engagement.	590
CPG-611	3.2.1.13.1.0-16	(U) The FCS CPG **shall** send an acceptance offer b(3) for engagement support requests b(3) that the FCS will support. The acceptance offer will include the timeline that will be supported by the FCS.	590
CPG-646	3.2.1.13.2.0-4	(U) The CPG **shall** initiate an FCR cued acquisition of the interceptor using received state vectors in accordance with the Engagement Support Plan. The Engagement Support Plan includes whether or not interceptor tracking is necessary.	644
CPG-652	3.2.1.13.3.0-2	(U) The CPG **shall** allow the operator to select an engagement and manually terminate support for the engagement.	653
CPG-2658	3.2.1.13.3.0-5	(U) The CPG **shall** notify the operator upon termination of engagement support.	654
CPG-666	3.2.1.14.0-5	(U) The CPG assessment of operational health **shall** result in one of the following determinations: a. (U) Item is Off or has been disabled, b. (U) No statement due to incomplete or invalid information, c. (U) Item is on and fully Operational, d. (U) Item is on and is Degraded due to loss of capabilities, but can support mission or e. (U) Item is Failed and cannot support the mission. (U) Note: Items include ABCS, MIDS, CEC, b3 MBMMRs, HF radio, the associated radar, and the associated platform.	657 658 665
CPG-672	3.2.1.14.0-6	(U) The CPG assessments of operating condition **shall** result in one of the following determinations: a. (U) Item is Off or has been disabled, b. (U) Item is Initializing,	657 658 665

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
		c. (U) Item has been initialized and is Configuring, d. (U) Item has been configured and in Standby-Ready (i.e., Configuration Mode), but is Ready to become operational (Standby-Ready), or e. (U) Item has been commanded into Operation (i.e., Tactical Mode) and is executing the mission. (U) Note: Items include MIDS, CEC, b(3), MBMMRs, HF radio, the associated radar, and the associated platform.	
CPG-2685	3.2.1.14.0-17	(U) The CPG **shall** enable the operator to access radar system hardware configuration data.	657
CPG-2660	3.2.1.15.0-18	(U) The CPG **shall** allow a qualified operator to: a. (U) select the recorded voice communications to archive b. (U) select the recorded voice communications to playback.	2610 2611
CPG-2659	3.2.1.15.0-19	(U) The CPG **shall** selectively archive b(3) of recorded voice communications to removable media.	2610
CPG-2678	3.2.1.16.1.0-13	(U) The CPG **shall** enable the operator to exit Embedded Training operations and switch to live operations with a single action.	732
CPG-2683	3.2.1.16.1.0-14	(U) The CPG **shall,** under operator control, record mission operator GUI actions during embedded tactical training sessions.	732
CPG-2682	3.2.1.16.1.0-15	(U) The CPG **shall,** under operator control, provide playback of recorded embedded tactical training sessions.	732
CPG-2679	3.2.1.16.2.0-3.0-1	(U) In the standalone sim-over-live mode, CPG **shall** a. (U) enable each operator to select whether to interact with the live or simulated radar (Note: The simulated radar uses the same mission profile as the live radar. A mission profile is controlled by the live radar.) b. (U) enable each operator to select to view sim-only, live only, or both sim and live data, c. (U) ensure that at least one operator select live only or sim and live data, d. (U) from the operators who satisfy (c), ensure that at least one operator select to interact with the live radar, e. (U) if no operator selects the simulated radar, the simulated radar is slaved to the live radar f. (U) prevent an operator viewing sim-only to interact with live comms or the live radar, and f. (U) provide an indication of the radar type with which the operator is interacting.	733

UNCLASSIFIED			
ID	**Paragraph**	**Communication and Processing Group Prime Item Development Specification**	**PIDS Link**
CPG-2642	3.2.1.16.4.0-1.0-1	(U) The CPG **shall** have storage and access for b(3) training scenarios.	752
CPG-2663	3.2.1.18.1.0-2	(U) The CPG **shall** support tactical chat capability b(3)	783
CPG-786	3.2.1.18.2.0-1	(U) The CPG **shall** configure the Black LAN upon operator request.	348
CPG-787	3.2.1.18.2.0-2	(U) The CPG **shall** configure the Red LAN upon operator request.	348
CPG-2686	3.2.2.1.0-1.0-1	b(3)	815
CPG-864	3.2.3.2.0-6	(U) The CPG main power **shall** be switched by the CCS, DPS, and SPS main power switches.	862
UNCLASSIFIED			

January 26, 2010
CAGE Code 49956
H377785- Appendix B Rev K

JOINT LAND ATTACK CRUISE MISSILE DEFENSE ELEVATED NETTED SENSOR SYSTEM (JLENS)
COMMUNICATION AND PROCESSING GROUP (CPG) PRIME ITEM DEVELOPMENT SPECIFICATION (PIDS), APPENDIX B

Raytheon Contract No. DASG60-98-C-0001 CLIN00018 B009

b(7)(e)

CAGE CODE: 49956
DOCUMENT NUMBER: H377785-Appendix B Rev K

Prepared by:
Raytheon Company
Integrated Defense Systems
350 Lowell St.
Andover, Massachusetts, 01810

REVISION HISTORY

UNCLASSIFIED			
Revision	**Authorization**	**Date**	**Description**
Rev A	ED 6120442	08/24/07	Classified Appendix to CPG PIDS – Initial release
Rev B	CN 7029373	10/19/07	Classified Appendix to CPG PIDS – Revision B
Rev C	CN 7030862	12/21/07	Classified Appendix to CPG PIDS – Revision C
Rev D	CN 7036160	08/25/08	Classified Appendix to CPG PIDS – Revision D
Rev E	CN 7037867	11/03/08	Classified Appendix to CPG PIDS – Revision E
Rev F	CN 7040783	04/06/2009	Classified Appendix to CPG PIDS – Revision F
Rev G	CN 7040788	04/06/2009	Classified Appendix to CPG PIDS – Revision G
Rev H	CN 7043476	08/05/2009	Classified Appendix to CPG PIDS – Revision H
Rev J	CN 7044882	10/15/2009	Classified Appendix to CPG PIDS – Revision J
Rev K	CN 7051744	01/26/2010	Classified Appendix to CPG PIDS – Revision K
UNCLASSIFIED			

TABLE OF CONTENTS

B (U) APPENDIX B

B.2 (U) APPLICABLE DOCUMENTS

B.2.1 (U) GOVERNMENT DOCUMENTS

(U) The following Government specifications, standards, and handbooks form a part of this document to the extent specified herein.

UNCLASSIFIED	
b(3)	b(3)
b(3)	b(3)
b(3)	b(3)
b(3)	b(3)
[19] H381794	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) System Specification (A-Specification)
UNCLASSIFIED	

B.2.2 (U) NON-GOVERNMENT DOCUMENTS

(U) The following non-Government specifications, standards, and handbooks form a part of this document to the extent specified herein.

UNCLASSIFIED	
[100] ANSI Z535.1	Safety Color Code
[101] ANSI Z535.2	Environmental and Facility Safety Signs
[102] ANSI Z535.3	Criteria for Safety Symbols
[103] ANSI Z535.4	Product Safety Signs and Labels
[104] ANSI Z535.5	Accident Prevention Tags (for Temporary Hazards)
[105] ANSI-HFE-100	
[106] IEEE C95. 1-2005	Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 30 GHz
[107] NFPA-780	Standard for the Installation of Lightning Protection Systems, 2004 Edition
UNCLASSIFIED	

(U) REQUIREMENTS

B.3.2.1.1 (U) General Operations

b(1)

b(1)

B.3.2.1.6.1 (U) General Track Maintenance

B.3.2.1.7 (U) Air Platform Type and Air Specific Type

b(1)

a. b(1)

b. b(1)

b(1)

b(1)

b(1)

b(1)

b(1)

B.3.2.1.10 (U) Track Reporting

b(1)

b(1)

B.3.2.1.12.1 (U) Request for Support

b(1)

b(1)

b(1)

B.3.2.5.2.6 b(3)

b(1)

a. b(1)

b. b(1)

c. b(1)

d. b(1)

e. b(1)

f. b(1)

g. b(1)

b(1)

B.4.1 (U) REQUIREMENTS VERIFICATION MATRIX

(U) Requirements Verification Matrix (RVM)

~~SECRET/NOFORN~~			
ID	**CPG PIDS, Appendix B**	**Verification Method**	**Level**
CPGX-2813	b(1)	A	Prime Item
CPGX-778	b(1)	A	Prime Item
CPGX-5601	b(1)	T	
CPGX-6012	b(1)	D	
CPGX-6013	b(1)	D	
CPGX-6014	b(1)	D	
CPGX-6016	b(1)	D	
CPGX-6015	b(1)	D	
CPGX-5569	b(1)	T	Prime Item
CPGX-5570	b(1)	T	Prime Item
CPGX-385	b(1)	T	Prime Item

~~SECRET/NOFORN~~

ID	CPG PIDS, Appendix B	Verification Method	Level
CPGX-6022	b(1)	T	
CPGX-6021	b(1)	T	
CPGX-2924	b(1)	A	Prime Item
CPGX-6008	b(1)	A, T	

~~SECRET/NOFORN~~

B.6.1 (U) ACRONYM LIST

~~SECRET/NOFORN~~	
Acronym	**Definition**
b(3)	b(3)
b(1)	b(1)
b(1)	b(1)
b(1)	b(1)
b(3)	b(3)
~~SECRET/NOFORN~~	

B.6.2 (U) GLOSSARY

~~SECRET~~	
Term	**Definition**
(U) System Abort	b(1) b(1) b(3)
~~SECRET~~	

B.6.3 (U) REQUIREMENTS ALLOCATION MATRIX

(U) Requirements Allocation Matrix with Safety Assessment

~~SECRET / NOFORN~~						
ID	**Paragraph**	**CPG PIDS, Appendix B**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPGX-2813	0-1.0-2.0-1.0-1	b(1)	CCP		Build 3	SR
CPGX-778	0-1.0-2.0-1.0-2	b(1)	CCP		Build 3	N
CPGX-5601	0-1.0-2.0-3.0-1	b(1)		MO	Build 3b Link-16, CEC Build 4 JRE	N
CPGX-6012	0-1.0-2.0-3.0-2	b(1)		MO	Build 3b	N
CPGX-6013	0-1.0-2.0-3.0-3	b(1)		MO	Build 3b	N
CPGX-6014	0-1.0-2.0-3.0-4	b(1)		MO	Build 3b	N
CPGX-6016	0-1.0-2.0-3.0-5	b(1)		MO	Build 4 JRE	N

000931

~~SECRET / NOFORN~~						
ID	**Paragraph**	**CPG PIDS, Appendix B**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
CPGX-6015	0-1.0-2.0-3.0-6	b(1)		MO	Build 4	N
CPGX-5569	0-1.0-2.0-4.0-1	b(1)	CCP	MO	Build 3b	N
CPGX-5570	0-1.0-2.0-4.0-2	b(1)	CCP	MO	Build 3b	N
CPGX-385	0-1.0-2.0-5.0-1	b(1)		MO	Build 3b	N
CPGX-6022	0-1.0-2.0-5.0-2	b(1)		MO	Build 4	N
CPGX-6021	0-1.0-2.0-5.0-3	b(1)		MO	Build 3b	N
CPGX-2924	0-1.0-2.0-7.0-1	b(1)	CCP			N

~~SECRET / NOFORN~~						
ID	**Paragraph**	**CPG PIDS, Appendix B**	**HW Allocation**	**SW Allocation**	**SW Build**	**Safety**
		b(1)				
CPGX-6008	0-1.0-2.0-7.0-2	b(1)	CCCS, CCCE, CDSS, CDSE, CCP			N
~~SECRET / NOFORN~~						

B.6.4 (U) SYSTEM SPECIFICATION TRACEABILITY MATRIX

(U) System Specification Traceability Matrix

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-15	3.2.1.1.1.1.1.0-1	(U) The Surveillance System shall be designed for land-based operations on a prepared site, see 6.2.	CPG-268		3.2.1.1.0-1	
A-24	3.2.1.1.1.1.1.0-2	(U) The Fire Control System shall be designed for land-based operations on a prepared site, see 6.2.	CPG-268		3.2.1.1.0-1	
A-17	3.2.1.1.1.1.2.0-1	b(3)	CPG-269		3.2.1.1.0-2	
A-26	3.2.1.1.1.1.2.0-2	b(3)	CPG-269		3.2.1.1.0-2	
A-19	3.2.1.1.1.1.3.0-1	(U) The Surveillance System shall be operable as a stand-alone sensor system, where stand-alone means that there need not be a JLENS Fire Control System.	CPG-270		3.2.1.1.0-3	
A-28	3.2.1.1.1.1.3.0-2	(U) The Fire Control System shall be operable as a stand-alone sensor system, where stand-alone means that there need not be a JLENS Surveillance System.	CPG-270		3.2.1.1.0-3	
A-137	3.2.1.2.2.2.0-1	b(3)	CPG-349 CPG-757 CPG-808 CPG-812		3.2.1.3.0-11 3.2.1.17.0-3 3.2.1.18.6.0-1 3.2.1.18.6.0-2	

000934

~~SECRET/NOFORN~~

ID	Object Number	Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)	CPG PIDS Object ID	App B Object ID	CPG PIDS Section	App B Section
A-1711	3.2.1.2.2.5.0-1	(U) The Surveillance System shall implement priorities defined in the mission profile.	CPG-271 CPG-2617		3.2.1.1.0-4 3.2.1.3.0-14	
A-71	3.2.1.2.2.6.1.0-1	b(1)	CPG-504 CPG-505 CPG-2469		3.2.1.8.2.0-5 3.2.1.8.2.0-6 3.2.1.4.2.0-4	
A-78	3.2.1.2.2.7.1.0-1	(U) The Surveillance System shall incorporate a GPS-aided inertial navigation system for automatic positioning, orientation determination and data alignment / registration, see 6.2.	CPG-798 CPG-801 CPG-2469		3.2.1.18.4.0-1 3.2.1.18.4.0-4 3.2.1.4.2.0-4	
A-82	3.2.1.2.2.7.2.1.0-1	b(3)	CPG-802		3.2.1.18.4.0-5	
A-88	3.2.1.2.2.7.2.3.0-1	b(3)	CPG-798 CPG-799 CPG-800 CPG-829		3.2.1.18.4.0-1 3.2.1.18.4.0-2 3.2.1.18.4.0-3 3.2.2.2.0-16	
A-128	3.2.1.2.3.1.0-1	(U) The Surveillance System, upon power application, shall automatically initialize to a point where it can accept configuration commands.	CPG-291 CPG-292 CPG-300 CPG-301		3.2.1.2.0-2 3.2.1.2.0-3 3.2.1.2.0-8 3.2.1.2.0-9	
A-131	3.2.1.2.3.2.0-2	b(3)	CPG-413		3.2.1.5.1.0-10	

~~SECRET/NOFORN~~

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-414 CPG-2617		3.2.1.5.1.0-11 3.2.1.3.0-14	
A-10309	3.2.1.2.3.4.0-1	b(3)	CPG-385 CPG-2493 CPG-2494 CPG-2496		3.2.1.4.1.0-4 3.2.1.4.1.0-5 3.2.1.4.1.0-6 3.2.1.4.1.0-7	
A-178	3.2.1.2.3.8.0-1	b(3)	CPG-533 CPG-534 CPG-535 CPG-536		3.2.1.10.0-2 3.2.1.10.0-3 3.2.1.10.0-4 3.2.1.10.0-5	
A-391	3.2.1.2.3.11.0-1	(U) The Surveillance System shall incorporate an emission control (EMCON) capability which reduces all radiated energy in compliance with MIL-STD-464A, Section titled *Emission control (EMCON)*, see Appendix H, b(3) .	CPG-408 CPG-410 CPG-2395 CPG-2586		3.2.1.5.1.0-7 3.2.1.5.1.0-8 3.2.1.5.1.0-9 3.2.1.5.1.0-1	
A-10312	3.2.1.2.3.11.0-2	(U) The Surveillance System shall incorporate an emission control (EMCON) capability which can be deactivated b(3)	CPG-384 CPG-408 CPG-2586		3.2.1.4.1.0-3 3.2.1.5.1.0-7 3.2.1.5.1.0-1	
A-667	3.2.1.2.3.13.0-1	(U) Ground-based processors in the Surveillance System shall employ an UPS to support orderly shutdown so they can be restarted, preserving the integrity, see 6.2, of the databases.	CPG-863		3.2.3.2.0-5	
A-669	3.2.1.2.3.14.0-1	(U) The Surveillance System, with the exception of the signal processor, shall be designed such that there is an inherent 50% reserve, see 6.2, computer memory and computer throughput for data processing.	CPG-1185		3.3.7.0-1	

000936

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-193	3.2.1.2.3.15.4.0-1	(U) The Surveillance System shall continuously record intercom, tactical and CCS voice communications for 12 hours.	CPG-2611		3.2.1.15.0-16	
A-1356	3.2.1.2.3.15.5.0-1	(U) The Surveillance System shall provide a selective voice playback capability through existing organic workstations.	CPG-2610		3.2.1.15.0-17	
A-685	3.2.1.2.3.15.6.0-1	(U) The Surveillance System shall be designed such that all classified data storage media including floppy disks, hard disks, compact disks, and tapes are easily removed from the computer with the use of standard tools or standard equipment.	CPG-1191		3.3.7.1.0-2	
A-688	3.2.1.2.3.15.7.0-1	(U) The Surveillance System shall provide non-volatile data storage devices with removable media.	CPG-1190		3.3.7.1.0-1	
A-694	3.2.1.2.3.15.8.0-1	(U) The Surveillance System shall continuously record organic weather data for NLT 12 hours.	CPG-2396		3.2.1.15.0-3	
A-191	3.2.1.2.3.15.9.0-1	(U) The Surveillance System shall provide selective data retrieval, report formatting, and report generation via an interactive operator interface.	CPG-2412		3.2.1.15.0-13	
A-192	3.2.1.2.3.15.10.0-1	(U) The Surveillance System shall provide recorded data archival via an interactive operator interface for post mission analysis.	CPG-2413		3.2.1.15.0-14	
A-127	3.2.1.2.5.1.1.0-1	b(3)	CPG-305 CPG-360 CPG-765 CPG-770 CPG-2607 CPG-2608 CPG-2609 CPG-2617 CPG-2643		3.2.1.3.0-2 3.2.1.3.0-17 3.2.1.17.0-8 3.2.1.17.0-9 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-14 3.2.1.3.0-20	

000937

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-2219	3.2.1.2.5.1.2.0-1	b(3)	CPG-360 CPG-2607 CPG-2608 CPG-2609 CPG-2617 CPG-2643		3.2.1.3.0-17 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-14 3.2.1.3.0-20	
A-1841	3.2.1.2.5.1.3.0-1	b(3)	CPG-2586		3.2.1.5.1.0-1	
A-1644	3.2.1.2.5.1.4.0-1	b(3)	CPG-360 CPG-577 CPG-2607 CPG-2608 CPG-2609 CPG-2643		3.2.1.3.0-17 3.2.1.11.0-24 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-20	
A-6302	3.2.1.2.5.1.5.0-1	b(3)	CPG-417		3.2.1.5.2.0-1	
A-2217	3.2.1.2.5.2.0-1	(U) The Surveillance System shall operate automatically upon operator command using mission profile parameters.	CPG-271		3.2.1.1.0-4	
A-2218	3.2.1.2.5.2.0-2	(U) The Surveillance System shall notify operators of conflicts in the automatic operation that need operator intervention.	CPG-281 CPG-475 CPG-488		3.2.1.1.0-5 3.2.1.7.0-6 3.2.1.8.1.0-5 3.2.1.8.1.0-	

~~SECRET/NOFORN~~

ID	Object Number	Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)	CPG PIDS Object ID	App B Object ID	CPG PIDS Section	App B Section
			CPG-498		13	
A-1720	3.2.1.2.5.3.0-1	b(3)	CPG-385 CPG-2493 CPG-2494 CPG-2496		3.2.1.4.1.0-4 3.2.1.4.1.0-5 3.2.1.4.1.0-6 3.2.1.4.1.0-7	
A-129	3.2.1.2.5.4.0-1	(U) The Surveillance System configuration shall allow for manual update, see 6.2.	CPG-391		3.2.1.4.1.0-8	
A-691	3.2.1.2.5.5.0-1	(U) The Surveillance System shall have manual controls for selecting data recording details in addition to the automatic level, see 3.2.1.2.3.13 *Data Recording*.	CPG-718 CPG-2471 CPG-2472		3.2.1.15.0-10 3.2.1.15.0-8 3.2.1.15.0-9	
A-2291	3.2.1.2.5.6.0-1	b(3)	CPG-587		3.2.1.11.0-31	
A-2292	3.2.1.2.5.6.0-2	b(3)	CPG-504		3.2.1.8.2.0-5	
A-1725	3.2.1.2.5.7.0-1	b(3)	CPG-392 CPG-831 CPG-832 CPG-833 CPG-842 CPG-843 CPG-879 CPG-880 CPG-881		3.2.1.4.1.0-9 3.2.2.2.0-18 3.2.2.2.0-19 3.2.2.2.0-20 3.2.2.3.0-4 3.2.2.3.0-5 3.2.3.3.0-13 3.2.3.3.0-14 3.2.3.3.0-15	

000939

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-882		3.2.3.3.0-16	
A-1316	3.2.1.2.5.7.0-2	b(3)	CPG-318 CPG-826		3.2.1.3.0-5 3.2.2.2.0-13	
A-1726	3.2.1.2.5.8.0-1	b(3)	CPG-393 CPG-831 CPG-832 CPG-833 CPG-842 CPG-843		3.2.1.4.1.0-10 3.2.2.2.0-18 3.2.2.2.0-19 3.2.2.2.0-20 3.2.2.3.0-4 3.2.2.3.0-5	
A-1335	3.2.1.2.5.10.0-1	b(3)	CPG-318 CPG-824 CPG-825 CPG-826		3.2.1.3.0-5 3.2.2.2.0-11 3.2.2.2.0-12 3.2.2.2.0-13	
A-1803	3.2.1.2.5.11.0-1	(U) The Surveillance System shall provide computer and network equipment to host software for use to perform military administrative, personnel, and logistics functions. This computer equipment can be in addition to the processing required for JLENS operations.	CPG-348		3.2.1.3.0-10	
A-1324	3.2.1.2.5.12.1.0-1	b(3)	CPG-395 CPG-396		3.2.1.4.2.0-1 3.2.1.4.2.0-2	

000940

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-397		3.2.1.4.2.0-3	
			CPG-843		3.2.2.3.0-5	
			CPG-849		3.2.2.3.0-6	
			CPG-851		3.2.2.3.0-7	
			CPG-852		3.2.2.3.0-8	
			CPG-2469		3.2.1.4.2.0-4	
A-1326	3.2.1.2.5.12.2.0-1	b(3)	CPG-395		3.2.1.4.2.0-1	
			CPG-396		3.2.1.4.2.0-2	
			CPG-397		3.2.1.4.2.0-3	
			CPG-841		3.2.2.3.0-3	
			CPG-843		3.2.2.3.0-5	
			CPG-851		3.2.2.3.0-7	
			CPG-852		3.2.2.3.0-8	
A-1329	3.2.1.2.5.13.0-1	b(3)	CPG-839		3.2.2.3.0-1	
			CPG-840		3.2.2.3.0-2	
			CPG-851		3.2.2.3.0-7	
			CPG-852		3.2.2.3.0-8	
A-1333	3.2.1.2.5.13.0-2	b(3)	CPG-839		3.2.2.3.0-1	
			CPG-840		3.2.2.3.0-2	
			CPG-851		3.2.2.3.0-7	
			CPG-852		3.2.2.3.0-8	
A-1327	3.2.1.2.5.14.1.0-1	b(3)	CPG-395		3.2.1.4.2.0-1	
					3.2.1.4.2.0-2	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
		b(3)	CPG-396 CPG-397 CPG-842		3.2.1.4.2.0-3 3.2.2.3.0-4	
A-1331	3.2.1.2.5.14.2.0-1	b(3)	CPG-839		3.2.2.3.0-1	
A-1809	3.2.1.2.5.15.0-1	b(3)	CPG-360 CPG-2607 CPG-2608 CPG-2609 CPG-2643		3.2.1.3.0-17 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-20	
A-380	3.2.1.2.5.16.0-1	(U) The Surveillance System shall provide operator controls to retrieve system prognostic data.	CPG-932 CPG-935		3.2.4.5.0-1 3.2.4.5.0-4	
A-1799	3.2.1.2.5.17.0-1	b(3)	CPG-384 CPG-408 CPG-410 CPG-2395		3.2.1.4.1.0-3 3.2.1.5.1.0-7 3.2.1.5.1.0-8 3.2.1.5.1.0-9	
A-1721	3.2.1.2.6.0-1	b(3)	CPG-376 CPG-395 CPG-396 CPG-397 CPG-469 CPG-470		3.2.1.4.1.0-2 3.2.1.4.2.0-1 3.2.1.4.2.0-2 3.2.1.4.2.0-3 3.2.1.6.2.0-2 3.2.1.6.2.0-3	

~~SECRET/NOFORN~~

ID	Object Number	Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)	CPG PIDS Object ID	App B Object ID	CPG PIDS Section	App B Section
			CPG-471		3.2.1.6.2.0-4	
			CPG-820		3.2.2.2.0-7	
			CPG-822		3.2.2.2.0-9	
			CPG-825		3.2.2.2.0-12	
			CPG-827		3.2.2.2.0-14	
			CPG-828		3.2.2.2.0-15	
			CPG-830		3.2.2.2.0-17	
			CPG-2469		3.2.1.4.2.0-4	
			CPG-2670		3.2.1.14.0-16	
A-1724	3.2.1.2.6.0-2	b(3)	CPG-823		3.2.2.2.0-10	
			CPG-833		3.2.2.2.0-20	
A-132	3.2.1.2.6.1.0-1	b(3)	CPG-534		3.2.1.10.0-3	
A-1729	3.2.1.2.6.1.0-2	b(3)	CPG-487		3.2.1.8.1.0-3	
			CPG-536		3.2.1.10.0-5	
			CPG-537		3.2.1.10.0-6	
			CPG-538		3.2.1.10.0-8	
A-1730	3.2.1.2.6.1.0-3	b(3)	CPG-536		3.2.1.10.0-5	
			CPG-537		3.2.1.10.0-6	
			CPG-538		3.2.1.10.0-8	
A-1762	3.2.1.2.6.1.0-4	b(3)	CPG-503		3.2.1.8.2.0-4	
			CPG-536		3.2.1.10.0-5	
A-	3.2.1.2.6.1.0-5	b(3)	CPG-503		3.2.1.8.2.0-4	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
1763		b(3)	CPG-536 CPG-2650		3.2.1.10.0-5 3.2.1.8.1.0-4	
A-1783	3.2.1.2.6.1.0-6	b(3)	CPG-503 CPG-534 CPG-2650		3.2.1.8.2.0-4 3.2.1.10.0-3 3.2.1.8.1.0-4	
A-1786	3.2.1.2.6.1.0-7	b(3)	CPG-533 CPG-828		3.2.1.10.0-2 3.2.2.2.0-15	
A-1791	3.2.1.2.6.1.0-8	b(3)	CPG-535		3.2.1.10.0-4	
A-1774	3.2.1.2.6.2.0-1	b(3)	CPG-536		3.2.1.10.0-5	
A-1775	3.2.1.2.6.2.0-2	b(3)	CPG-536		3.2.1.10.0-5	
A-1778	3.2.1.2.6.2.0-3	b(3)	CPG-539		3.2.1.10.0-10	
A-1779	3.2.1.2.6.2.0-4	b(3)	CPG-539		3.2.1.10.0-10	
A-7028	3.2.1.2.6.2.0-5	b(3)	CPG-539		3.2.1.10.0-10	
A-1776	3.2.1.2.6.3.0-1	b(3)	CPG-536		3.2.1.10.0-5	
A-1777	3.2.1.2.6.3.0-2	b(3)	CPG-536		3.2.1.10.0-5	
A-2282	3.2.1.2.6.3.0-3	b(3)	CPG-539		3.2.1.10.0-10	

000944

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-2283	3.2.1.2.6.3.0-4	b(3)	CPG-539		3.2.1.10.0-10	
A-7029	3.2.1.2.6.3.0-5	b(3)	CPG-539		3.2.1.10.0-10	
A-154	3.2.1.2.6.4.0-1	b(1)	CPG-533 CPG-536 CPG-825		3.2.1.10.0-2 3.2.1.10.0-5 3.2.2.2.0-12	
A-1735	3.2.1.2.6.4.0-2	b(3)	CPG-532 CPG-536		3.2.1.10.0-1 3.2.1.10.0-5	
A-1736	3.2.1.2.6.4.0-3	b(3)	CPG-532 CPG-536		3.2.1.10.0-1 3.2.1.10.0-5	
A-1787	3.2.1.2.6.4.0-4	b(3)	CPG-532 CPG-533		3.2.1.10.0-1 3.2.1.10.0-2	
A-1793	3.2.1.2.6.4.0-5	b(3)	CPG-532 CPG-535		3.2.1.10.0-1 3.2.1.10.0-4	
A-1764	3.2.1.2.6.5.0-1	b(3)	CPG-2490		3.2.1.14.0-13	
A-1765	3.2.1.2.6.5.0-2	b(3)	CPG-2491		3.2.1.14.0-14	
A-1784	3.2.1.2.6.5.0-3	b(3)	CPG-2492		3.2.1.14.0-15	
A-1308	3.2.1.2.6.5.0-4	b(3)	CPG-698		3.2.1.14.0-12	
A-217	3.2.1.3.1.1.3.1.1.0-1	b(1)	CPG-590		3.2.1.13.1.0-1	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
		b(1) b(1) b(3) b(1)	CPG-2549		3.2.1.9.0-1	
A-219	3.2.1.3.1.1.3.1.2.0-1	b(1)	CPG-590 CPG-2549		3.2.1.13.1.0-1 3.2.1.9.0-1	

000946

~~SECRET/NOFORN~~

ID	Object Number	Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)	CPG PIDS Object ID	App B Object ID	CPG PIDS Section	App B Section
		b(3) b(1)				
A-1087	3.2.1.3.1.1.3.1.3.0-1	b(1)	CPG-419 CPG-643	CPGX-6015	3.2.1.5.3.0-1 3.2.1.13.2.0-2	0-1.0-2.0-3.0-6
A-224	3.2.1.3.1.1.3.2.1.0-1	b(1) b(3) b(1)	CPG-590	CPGX-6022	3.2.1.13.1.0-1	0-1.0-2.0-5.0-2

000947

~~SECRET/NOFORN~~

ID	Object Number	Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)	CPG PIDS Object ID	App B Object ID	CPG PIDS Section	App B Section
		b(1)				
A-226	3.2.1.3.1.1.3.2.2.0-1	b(1)	CPG-590	CPGX-6022	3.2.1.13.1.0-1	0-1.0-2.0-5.0-2
		b(3)				
		b(1)				
A-240	3.2.1.3.1.1.5.0-1	b(3)	CPG-445		3.2.1.6.1.0-1	
A-241	3.2.1.3.1.1.5.0-2	b(3)	CPG-445		3.2.1.6.1.0-1	

000948

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
		b(3)	CPG-459 CPG-2553		3.2.1.6.1.0-5 3.2.1.6.1.0-7	
A-1713	3.2.1.3.1.1.5.0-3	b(3)	CPG-445 CPG-650		3.2.1.6.1.0-1 3.2.1.13.2.0-6	
A-1063	3.2.1.3.1.3.0-1	b(3)	CPG-360 CPG-419 CPG-2607 CPG-2608 CPG-2609 CPG-2643		3.2.1.3.0-17 3.2.1.5.3.0-1 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-20	
A-206	3.2.1.3.2.2.0-1	b(3)	CPG-349 CPG-757 CPG-808 CPG-812		3.2.1.3.0-11 3.2.1.17.0-3 3.2.1.18.6.0-1 3.2.1.18.6.0-2	
A-6379	3.2.1.3.2.3.4.0-1	b(3)	CPG-2587		3.2.1.5.3.0-3	
A-205	3.2.1.3.2.5.0-1	b(3)	CPG-271 CPG-441 CPG-442		3.2.1.1.0-4 3.2.1.5.3.0-11 3.2.1.5.3.0-	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-2586		12 3.2.1.5.1.0-1	
A-72	3.2.1.3.2.6.1.0-1	b(1)	CPG-504 CPG-505 CPG-2469		3.2.1.8.2.0-5 3.2.1.8.2.0-6 3.2.1.4.2.0-4	
A-79	3.2.1.3.2.7.1.0-1	b(3)	CPG-372 CPG-801 CPG-2469		3.2.1.4.1.0-1 3.2.1.18.4.0-4 3.2.1.4.2.0-4	
A-83	3.2.1.3.2.7.2.1.0-1	b(3)	CPG-802		3.2.1.18.4.0-5	
A-89	3.2.1.3.2.7.2.3.0-1	b(3)	CPG-798 CPG-799 CPG-800 CPG-829		3.2.1.18.4.0-1 3.2.1.18.4.0-2 3.2.1.18.4.0-3 3.2.2.2.0-16	
A-201	3.2.1.3.3.1.0-1	(U) The Fire Control System, upon power application, shall automatically initialize to a point where it can accept configuration commands.	CPG-291 CPG-292 CPG-300 CPG-301		3.2.1.2.0-2 3.2.1.2.0-3 3.2.1.2.0-8 3.2.1.2.0-9	
A-198	3.2.1.3.3.2.0-2	b(3)	CPG-413 CPG-414		3.2.1.5.1.0-10 3.2.1.5.1.0-	

000960

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-2549		11 3.2.1.9.0-1	
A-10311	3.2.1.3.3.4.0-1	b(3)	CPG-385 CPG-2493 CPG-2494 CPG-2496		3.2.1.4.1.0-4 3.2.1.4.1.0-5 3.2.1.4.1.0-6 3.2.1.4.1.0-7	
A-199	3.2.1.3.3.5.0-1	b(3)	CPG-428 CPG-429 CPG-434 CPG-435 CPG-436 CPG-437		3.2.1.5.3.0-4 3.2.1.5.3.0-5 3.2.1.5.3.0-6 3.2.1.5.3.0-7 3.2.1.5.3.0-9 3.2.1.5.3.0-10	
A-286	3.2.1.3.3.8.3.1.0-1	b(1) (U) By definition, a "surface" target is a target which is located on the surface of the Earth. (U) In this context, "airborne" means non-surface.	CPG-533 CPG-534 CPG-536 CPG-825		3.2.1.10.0-2 3.2.1.10.0-3 3.2.1.10.0-5 3.2.2.2.0-12	
A-6898	3.2.1.3.3.8.3.2.0-1	b(1)	CPG-533 CPG-536		3.2.1.10.0-2 3.2.1.10.0-5	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
		b(1) (U) By definition, a "surface" target is a target which is located on the surface of the Earth.	CPG-825		3.2.2.2.0-12	
A-111707	3.2.1.3.3.8.3.3.0-1	(U) The Fire Control System, when in the Tactical Mode, shall declare 100% of the time whether a target in track is ABT, SMT, or ballistic.	CPG-533 CPG-534 CPG-535 CPG-536		3.2.1.10.0-2 3.2.1.10.0-3 3.2.1.10.0-4 3.2.1.10.0-5	
A-392	3.2.1.3.3.11.0-1	(U) The Fire Control System shall incorporate an emission control (EMCON) capability which reduces all radiated energy in compliance with MIL-STD-464A, Section titled *Emission control (EMCON)*, see Appendix H, b(3)	CPG-408 CPG-410 CPG-2395		3.2.1.5.1.0-7 3.2.1.5.1.0-8 3.2.1.5.1.0-9	
A-10313	3.2.1.3.3.11.0-2	(U) The Fire Control System shall incorporate an emission control (EMCON) capability which can be deactivated b(3)	CPG-384 CPG-408 CPG-2586		3.2.1.4.1.0-3 3.2.1.5.1.0-7 3.2.1.5.1.0-1	
A-6333	3.2.1.3.3.13.0-1	b(3)	CPG-863		3.2.3.2.0-5	
A-670	3.2.1.3.3.14.0-1	(U) The Fire Control System, with the exception of the signal processor, shall be designed such that there is an inherent 50% reserve computer memory and computer throughput for data processing.	CPG-1185		3.3.7.0-1	
A-296	3.2.1.3.3.15.4.0-1	(U) The Fire Control System shall continuously record intercom, tactical and CCS voice communications for 12 hours.	CPG-2611		3.2.1.15.0-16	
A-113327	3.2.1.3.3.15.5.0-1	(U) The Fire Control System shall provide a selective voice playback capability through existing organic workstations.	CPG-2610		3.2.1.15.0-17	
A-686	3.2.1.3.3.15.6.0-1	(U) The Fire Control System shall be designed such that all classified data storage media including floppy disks, hard disks, compact disks, and tapes are easily removed from the computer with the use of standard tools or	CPG-1191		3.3.7.1.0-2	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
		standard equipment.				
A-689	3.2.1.3.3.15.7.0-1	(U) The Fire Control System shall provide non-volatile data storage devices with removable media.	CPG-1190		3.3.7.1.0-1	
A-695	3.2.1.3.3.15.8.0-1	(U) The Fire Control System shall continuously record organic weather data for NLT 12 hours.	CPG-2396		3.2.1.15.0-3	
A-294	3.2.1.3.3.15.9.0-1	(U) The Fire Control System shall provide selective data retrieval, report formatting, and report generation via an interactive operator interface.	CPG-2412		3.2.1.15.0-13	
A-295	3.2.1.3.3.15.10.0-1	b(3)	CPG-2413		3.2.1.15.0-14	
A-200	3.2.1.3.5.1.1.0-1	b(3)	CPG-305 CPG-360 CPG-765 CPG-770 CPG-2607 CPG-2608 CPG-2609 CPG-2643		3.2.1.3.0-2 3.2.1.3.0-17 3.2.1.17.0-8 3.2.1.17.0-9 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-20	
A-2216	3.2.1.3.5.1.2.0-1	b(3)	CPG-360 CPG-2607 CPG-2608 CPG-2609 CPG-2643		3.2.1.3.0-17 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-20	

000953

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-1842	3.2.1.3.5.1.3.0-1	b(3)	CPG-2586		3.2.1.5.1.0-1	
A-1372	3.2.1.3.5.2.0-1	(U) The Fire Control System shall operate automatically upon operator command using mission profile parameters.	CPG-271 CPG-441 CPG-442		3.2.1.1.0-4 3.2.1.5.3.0-11 3.2.1.5.3.0-12	
A-1373	3.2.1.3.5.2.0-2	(U) The Fire Control System shall notify operators of conflicts in the automatic operation that need operator intervention.	CPG-281 CPG-475 CPG-488 CPG-498 CPG-628		3.2.1.1.0-5 3.2.1.7.0-6 3.2.1.8.1.0-5 3.2.1.8.1.0-13 3.2.1.12.0-10	
A-2214	3.2.1.3.5.2.0-3	b(1)	CPG-590 CPG-592 CPG-637 CPG-644 CPG-654 CPG-2549 CPG-2657	CPGX-385 CPGX-6021	3.2.1.13.1.0-1 3.2.1.13.1.0-4 3.2.1.13.2.0-1 3.2.1.13.2.0-3 3.2.1.13.3.0-4 3.2.1.9.0-1 3.2.1.13.3.0-1	0-1.0-2.0-5.0-1 0-1.0-2.0-5.0-3

000954

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-2215	3.2.1.3.5.2.0-4	b(3)	CPG-591		3.2.1.13.1.0-3	
A-1719	3.2.1.3.5.3.0-1	b(3)	CPG-385 CPG-2493 CPG-2494 CPG-2496		3.2.1.4.1.0-4 3.2.1.4.1.0-5 3.2.1.4.1.0-6 3.2.1.4.1.0-7	
A-202	3.2.1.3.5.4.0-1	(U) The Fire Control System configuration shall allow for manual update.	CPG-391		3.2.1.4.1.0-8	
A-692	3.2.1.3.5.5.0-1	(U) The Fire Control System shall have manual controls for selecting data recording details in addition to the automatic level, see 3.2.1.3.3.13 *Data Recording*.	CPG-718 CPG-2471 CPG-2472		3.2.1.15.0-10 3.2.1.15.0-8 3.2.1.15.0-9	
A-207	3.2.1.3.5.6.0-1	b(3)	CPG-423 CPG-586 CPG-624 CPG-635		3.2.1.5.3.0-2 3.2.1.11.0-30 3.2.1.12.0-9 3.2.1.12.0-13	
A-208	3.2.1.3.5.6.0-2	b(3)	CPG-540 CPG-587		3.2.1.10.0-11 3.2.1.11.0-31	
A-2229	3.2.1.3.5.6.0-3	b(3)	CPG-504		3.2.1.8.2.0-5	
A-2230	3.2.1.3.5.6.0-4	b(3)	CPG-474 CPG-622 CPG-635 CPG-2400		3.2.1.7.0-5 3.2.1.12.0-7 3.2.1.12.0-13 3.2.1.7.0-2	
A-	3.2.1.3.5.7.0-1	b(3)	CPG-392		3.2.1.4.1.0-9	

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
1727		b(3)	CPG-622 CPG-831 CPG-832 CPG-833 CPG-842 CPG-843 CPG-879 CPG-880 CPG-881 CPG-882		3.2.1.12.0-7 3.2.2.2.0-18 3.2.2.2.0-19 3.2.2.2.0-20 3.2.2.3.0-4 3.2.2.3.0-5 3.2.3.3.0-13 3.2.3.3.0-14 3.2.3.3.0-15 3.2.3.3.0-16	
A-2294	3.2.1.3.5.7.0-2	b(3)	CPG-318 CPG-826		3.2.1.3.0-5 3.2.2.2.0-13	
A-1728	3.2.1.3.5.8.0-1	b(3)	CPG-393 CPG-622 CPG-831 CPG-832 CPG-833 CPG-842		3.2.1.4.1.0-10 3.2.1.12.0-7 3.2.2.2.0-18 3.2.2.2.0-19 3.2.2.2.0-20 3.2.2.3.0-4	

000956

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
A-6925	3.2.1.3.5.10.0-1	b(3)	CPG-318 CPG-824 CPG-825 CPG-826		3.2.1.3.0-5 3.2.2.2.0-11 3.2.2.2.0-12 3.2.2.2.0-13	
A-1805	3.2.1.3.5.11.0-1	(U) The Fire Control System shall provide computer and network equipment to host software for use to perform military administrative, personnel, and logistics functions. This computer equipment can be in addition to the processing required for JLENS operations.	CPG-348		3.2.1.3.0-10	
A-2297	3.2.1.3.5.12.1.0-1	b(3)	CPG-395 CPG-396 CPG-397 CPG-843 CPG-2469		3.2.1.4.2.0-1 3.2.1.4.2.0-2 3.2.1.4.2.0-3 3.2.2.3.0-5 3.2.1.4.2.0-4	
A-2300	3.2.1.3.5.12.2.0-1	b(3)	CPG-395 CPG-396 CPG-397 CPG-843		3.2.1.4.2.0-1 3.2.1.4.2.0-2 3.2.1.4.2.0-3 3.2.2.3.0-5	
A-2302	3.2.1.3.5.13.0-1	(U) The Fire Control System shall be able to communicate via the Public Switched Telephone Network (PSTN).	CPG-839		3.2.2.3.0-1	
A-2303	3.2.1.3.5.13.0-2	(U) The Fire Control System shall be able to communicate via the Integrated Services Digital Network (ISDN).	CPG-839		3.2.2.3.0-1	
A-2308	3.2.1.3.5.14.1.0-1	(U) The Fire Control System shall have Secure Telephone Units (STUs) or Secure Terminal Equipment (STE) that interface to military tactical telephone systems.	CPG-395 CPG-396 CPG-397		3.2.1.4.2.0-1 3.2.1.4.2.0-2 3.2.1.4.2.0-3	

000967

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-842		3.2.2.3.0-4	
A-2309	3.2.1.3.5.14.2.0-1	(U) The Fire Control System shall have an interface to communicate via the secure Defense Switched Network (DSN).	CPG-839		3.2.2.3.0-1	
A-1808	3.2.1.3.5.15.0-1	b(3)	CPG-360 CPG-2607 CPG-2608 CPG-2609 CPG-2643		3.2.1.3.0-17 3.2.1.3.0-19 3.2.1.3.0-18 3.2.1.3.0-17.0-1 3.2.1.3.0-20	
A-381	3.2.1.3.5.16.0-1	(U) The Fire Control System shall provide operator controls to retrieve system prognostic data.	CPG-932 CPG-935		3.2.4.5.0-1 3.2.4.5.0-4	
A-1802	3.2.1.3.5.17.0-1	b(3)	CPG-384 CPG-408 CPG-410 CPG-2395		3.2.1.4.1.0-3 3.2.1.5.1.0-7 3.2.1.5.1.0-8 3.2.1.5.1.0-9	
A-1722	3.2.1.3.6.0-1	b(3)	CPG-376 CPG-395 CPG-396 CPG-397 CPG-469 CPG-470 CPG-471 CPG-622	CPGX-6015	3.2.1.4.1.0-2 3.2.1.4.2.0-1 3.2.1.4.2.0-2 3.2.1.4.2.0-3 3.2.1.6.2.0-2 3.2.1.6.2.0-3 3.2.1.6.2.0-4 3.2.1.12.0-7	0-1.0-2.0-3.0-6

000958

~~SECRET/NOFORN~~						
ID	**Object Number**	**Dec. 4, 2009 - JLENS A-Specification (~~S/NF~~)**	**CPG PIDS Object ID**	**App B Object ID**	**CPG PIDS Section**	**App B Section**
			CPG-820		3.2.2.2.0-7	
			CPG-822		3.2.2.2.0-9	
			CPG-825		3.2.2.2.0-12	
			CPG-827		3.2.2.2.0-14	
			CPG-828		3.2.2.2.0-15	
			CPG-830		3.2.2.2.0-17	
			CPG-2469		3.2.1.4.2.0-4	
			CPG-2614		3.2.1.7.0-8	
			CPG-2615		3.2.1.7.0-7	
			CPG-2670		3.2.1.14.0-16	
A-1723	3.2.1.3.6.0-2	b(3)	CPG-536		3.2.1.10.0-5	
			CPG-823		3.2.2.2.0-10	
			CPG-833		3.2.2.2.0-20	
A-1731	3.2.1.3.6.1.0-1	b(3)	CPG-536		3.2.1.10.0-5	
			CPG-537		3.2.1.10.0-6	
			CPG-538		3.2.1.10.0-8	
A-1732	3.2.1.3.6.1.0-2	b(3)	CPG-536		3.2.1.10.0-5	
			CPG-537		3.2.1.10.0-6	
			CPG-538		3.2.1.10.0-8	
A-1636	3.2.1.3.6.1.0-3	b(3)	CPG-534		3.2.1.10.0-3	
A-1760	3.2.1.3.6.1.0-4	b(3)	CPG-479	CPGX-6013	3.2.1.8.1.0-2	0-1.0-2.0-3.0-3
			CPG-487		3.2.1.8.1.0-3	