

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
R - 1	<p>1 Introduction</p> <p>In this document, the Scenario Planner user requirements are organized into the following categories: Input, Processing, Display, Communications, and Output. For each requirement, the following information is provided:</p> <ul style="list-style-type: none"> - Applicable phase(s) - User priority - Current status of the requirement in the Scenario Planner 							
R - 2	<p>2 Input Requirements</p>							
R - 322	The user shall be able to load NIMA data from NIMA source media.		Yes				High	Does Not Exist
R - 346	The user shall be able to import a high fidelity model of telemetry effective radiated power vs attitude.		Yes				High	Does Not Exist
R - 272	The user shall be able to load target launch points (GOG files) within the mapped test area location.		Yes				High	Exists
R - 273	The user shall be able to load the whole body/intact impact points of the target (GOG files) within the mapped test area location		Yes				High	Exists
R - 274	The user shall be able to load the interceptor launch points (GOG files) within the mapped test area location.		Yes				High	Exists
R - 275	The user shall be able to load the whole body/intact interceptor impact points within the mapped test area location.		Yes				High	Exists
R - 276	The user shall be able to load the location of radars (to include fixed and mobile platforms) within the mapped test		Yes				High	Partially Exists

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	area location by hooking an icon and getting amplified information.							
R - 277	The user shall be able to load the location of Firing Unit elements within the mapped test area location.		Yes				High	Exists
R - 278	The user shall be able to load the location of intercept points (to include altitude, latitude, longitude) within the mapped test area location.		Yes				High	Exists
R - 279	The user shall be able to load the target ground tracks from launch to intercept within the mapped test area location.		Yes				High	Exists
R - 280	The user shall be able to load the interceptor ground tracks from launch to intercept within the mapped test area location.		Yes				High	Exists
R - 281	The user shall be able to load the location of each air aux sensor participant (to include altitude, latitude, longitude) within the mapped test area location.		Yes				High	Exists
R - 282	The user shall be able to load the location of each surface aux sensor participant within the mapped test area location.		Yes				High	Exists
R - 247	The user shall be able to manually enter the test objectives of the mission.		Yes				Medium	Does Not Exist
R - 365	The user shall be able to input single nominal trajectories for a given launch vehicle where trajectory coordinate frame should be standard (WGS-84 ECI with epoch at t=0, ECEF or geodetic) and include time, position, velocity acceleration and three-dimensional body orientation (Euler angles or direction cosine matrix).	Yes	Yes				High	Does Not Exist
R - 366	The user shall be able to input multiple off-nominal (-100) trajectories for a given launch vehicle where trajectory coordinate frame should be standard (WGS-84 ECI with	Yes	Yes				High	Does Not Exist

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	epoch at t=0, ECEF or geodetic) and include time, position, velocity acceleration, and three-dimensional body orientation (Euler angles or direction cosine matrix).							
R - 367	The user shall be able to load aircraft flight paths (and orientation where available) from a text file.	Yes	Yes				High	Does Not Exist
R - 368	The user shall be able to manually input all participant locations as paths or fixed points.	Yes	Yes				High	Does Not Exist
R - 369	The user shall be able to input a basic launch window closure table from a text file (e.g., satellite collision avoidance (COLA) launch window closure table)	Yes	Yes				High	Does Not Exist
R - 370	The user shall be able to manually enter solar orbital element sets.	Yes	Yes				High	Does Not Exist
R - 371	The user shall be able to manually enter lunar orbital element sets.	Yes	Yes				High	Does Not Exist
R - 372	The user shall be able to manually enter launch window closure criteria for various sensors (e.g., sun or moon exclusion angles, no radiation into geosynchronous belt, etc.)	Yes	Yes				High	Does Not Exist
R - 14	The user shall be able to import hazard patterns within a scenario.		Yes				High	Exists
R - 15	The user shall be able to assign sensors (to include timing and tracking responsibility) within a scenario.		Yes				High	Exists
R - 16	The user shall be able to define Operational Areas within a scenario as GOG files for tankers, orbits, shooters, etc.		Yes				High	Exists
R - 19	The user shall be able to install a runtime version of the Scenario Planner from a CD with minimal instruction on specified hardware.	Yes	Yes	Yes	Yes	Yes	High	Partially Exists

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R - 20	The user shall be able to initiate a scenario plan.	Yes					High	Does Not Exist
R - 21	The user shall be able to incorporate inputs from their weapons' customers	Yes					High	Does Not Exist
R - 54	The user shall be able to import nominal target trajectories.		Yes				High	Exists
R - 55	The user shall be able to import nominal missile trajectories.		Yes				High	Exists
R - 56	The user shall be able to import monte carlo target trajectories.		Yes				Medium	Does Not Exist
R - 57	The user shall be able to import monte carlo missile trajectories.		Yes				Medium	Does Not Exist
R - 68	The user shall be able to input generic footprint patterns (GOG files) with labels in planned scenarios.		Yes				High	Exists
R - 77	The user shall be able to import IR signatures.		Yes				Low	Does Not Exist
R - 334	The user shall be able to set a classification banner.		Yes				High	Does Not Exist
R - 78	The user shall be able to import RF signatures.		Yes				Low	Does Not Exist
R - 92	The user shall be able to manually enter solar criteria (date, time, boresight angle, interval) for the purpose of calculating a launch window.		Yes				High	Does Not Exist
R - 93	The user shall be able to manually enter lunar criteria (date, time, boresight angle, interval) for the purpose of calculating a launch window.		Yes				High	Does Not Exist
R - 102	The user shall be able to import emitter data, as applicable, to include frequency range, primary mission frequency, back-up mission frequency, function, transmitter power, peak/average, pulse width, PRF.		Yes				Medium	Does Not Exist

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R - 103	The user shall be able to manually enter emitter data to include frequency range, primary mission frequency, back-up mission frequency, function, transmitter power, peak/average, pulse width, PR.		Yes				High	Does Not Exist
R - 104	The user shall be able to import COLA window closures.		Yes				High	Does Not Exist
R - 150	The user shall be able to enter a timeline for the plan.		Yes				High	Not Sure
R - 156	The user shall be able to identify the Operation's participants.		Yes	Yes	Yes		High	Does Not Exist
R - 157	The user shall be able to position the Operation participants (i.e., put a participant at a particular latitude/longitude).		Yes				High	Exists
R - 176	The user shall be able to input Target Support Position (TSP) for all the Aux Sensors		Yes				High	Exists
R - 180	The user shall be able to import a unique checklist for Aux sensors for each mission		Yes				High	Does Not Exist
R - 195	The user shall be able to manually enter a Scenario Plan from APL		Yes				High	Exists
R - 198	The user shall be able to create the TBM Model used with the Scenario Planner. (Generated outside of the Planner.)		Yes				High	Exists
R - 235	The user shall be able to output raw data from the ITCS/MAGICC tracking systems.				Yes		High	Not Sure
R - 251	The user shall be able to import PMS-451 decision aid tool output.		Yes				Low	Does Not Exist
R - 252	The user shall be able to receive inputs from the PMRF Range.						Low	Does Not Exist
R - 266	The user shall be able to link to the Op clock.				Yes		High	Does Not

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								Exist
R - 269	The user shall be able to import a PFPS route for various support aircraft such as the SRALT C-130's flight path.		Yes				High	Does Not Exist
R - 309	The user shall be able to manually enter hardware parameters within the TM support plan.		Yes				High	Does Not Exist
R - 398	The user shall be able to manually enter data to generate a go/no-go table.		Yes				High	Does Not Exist
R - 342	The user shall be able to import data to generate a go/no-go table.		Yes				High	Does Not Exist
R - 310	The user shall be able to manually enter bandwidth limits of the narrowband receivers in each Receiver-Combiner (RC) combination within TM support plan.		Yes				High	Partially Exists
R - 311	The user shall be able to manually enter bandwidth limits of the wideband receivers in each Receiver-Combiner (RC) combination within TM support plan.		Yes				High	Partially Exists
R - 312	The user shall be able to manually enter recording capability data rates of the data recorders area of interest within the TM support plan.		Yes				High	Does Not Exist
R - 313	The user shall be able to manually enter recording capability recording time limits of the data recorders area of interest within the TM support plan.		Yes				High	Does Not Exist
R - 315	The user shall be able to manually enter time of intercept required for detection within the plot for the TM support plan.		Yes				High	Exists
R - 317	The user shall be able to manually enter minimum SNR required for detection within the plot for the TM support plan.		Yes				High	Partially Exists

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R - 318	The user shall be able to manually enter minimum SNR required for processing within the plot for the TM support plan.		Yes				High	Partially Exists
R - 3	3 Processing Requirements							
R - 339	The user shall be able to identify ID, lat/long and status as a user-defined event (e.g., in or out of the box).			Yes	Yes		High	Does Not Exist
R - 336	The user shall be able to save generic emitter data to be used for other missions		Yes				High	Does Not Exist
R - 338	The user shall be able to compute real time events (e.g., time to specified altitude, time to apogee altitude, impact point).		Yes				High	Does Not Exist
R - 340	The user shall be able to generate a go/no-go table from manually entered data.		Yes				High	Does Not Exist
R - 343	The user shall be able to generate a go/no-go table from imported data.		Yes				High	Does Not Exist
R - 316	The user shall be able to manually enter time of intercept required for processing within the plot for the TM support plan.		Yes				High	Partially Exists
R - 359	The user shall be able to generate generic "X,Y" plots from readily accessible track data, specifying fixed scales and increments.		Yes				High	Partially Exists
R - 362	The user shall be able to copy plots from the Scenario Planner for pasting into PowerPoint slides.		Yes				High	Does Not Exist
R - 363	The user shall be able to paste copied plots from the Scenario Planner into PowerPoint slides.		Yes				High	Does Not Exist

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R - 382	The user shall be able to write aircraft flight paths (and orientation where available) from a text file.	Yes	Yes				High	Does Not Exist
R - 383	The user shall be able to compare parameters from various participants.	Yes	Yes				High	Does Not Exist
R - 384	The user shall be able to tag one (1) or more vehicles and participants and flip the scenario about a vertical plane.	Yes	Yes				High	Does Not Exist
R - 385	The user shall be able to attach IR sensors to participants and define azimuth limits, elevation limits, or boresight and half-angle.	Yes	Yes				High	Does Not Exist
R - 386	The user shall be able to attach visual sensors to participants and define azimuth limits, elevation limits, or boresight and half-angle.	Yes	Yes				High	Does Not Exist
R - 387	The user shall be able to attach RF sensors to participants and define azimuth limits, elevation limits, or boresight and half-angle.	Yes	Yes				High	Does Not Exist
R - 388	The user shall be able to calculate tracking parameters for given participants and targets including: slant range, horizon angle, elevation angel, azimuth angle, aspect angle and roll angle as a function of time.	Yes	Yes				High	Partially Exists
R - 389	The user shall be able to calculate estimated target RF and IR signatures as a function of time for a given sensor	Yes	Yes				Low	Does Not Exist
R - 390	The user shall be able to calculate polarization angle and interpolate RCS tables to plot RCS vs. time for various sensors, given percentile and RF band.	Yes	Yes				High	Does Not Exist
R - 391	The user shall be able to interpolate IR tables and plot IR vs. time for various sensors given the waveband.	Yes	Yes				High	Does Not Exist

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R - 392	The user shall be able to conduct launch window planning.	Yes	Yes				Low	Does Not Exist
R - 393	The user shall be able to conduct rudimentary link margin analysis.	Yes	Yes				High	Does Not Exist
R - 175	The user shall be able to generate and process, in standalone, INET data in messages 25 and 26 (from an ASCII file)		Yes	Yes			High	Partially Exists
R - 90	The user shall be able to calculate solar data.		Yes				High	Does Not Exist
R - 91	The user shall be able to calculate lunar data.		Yes				High	Does Not Exist
R - 36	The user shall be able to set the accuracy of trajectory readings (e.g., by selecting higher level fidelity vs. nominal that is shown in the top down view) prior to Mission Operations.				Yes		High	Partially Exists
R - 42	The user shall be able to store a read-only configuration-managed version of the baselined scenario.	Yes	Yes	Yes	Yes	Yes	High	Exists
R - 43	The user shall be able to access the baselined version of the scenario with no threat of overwriting that scenario.	Yes	Yes	Yes	Yes	Yes	High	Exists
R - 45	The user shall be able to develop the scenario missile trajectory within the tool.	Yes	Yes				Low	Does Not Exist
R - 46	The user shall be able to develop the target trajectory within the tool.	Yes	Yes				Low	Partially Exists
R - 47	The user shall be able to maintain configuration control of scenarios.	Yes	Yes	Yes	Yes	Yes	High	Exists
R - 49	The user shall be able to save a working copy of an original baselined scenario under a name different than the baselined scenario name.	Yes	Yes				High	Partially Exists
R - 50	The user shall be able to modify a working copy of an	Yes	Yes				High	Exists

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	original baselined scenario.							
R - 51	The user shall be prevented from overwriting original baselined scenarios.	Yes	Yes	Yes	Yes	Yes	High	Exists
R - 52	The user shall be able to analyze radar tracking using link margin, sensor coverage, and tradeoffs if there are gaps.					Yes	High	Exists
R - 58	The user shall be able to translate missile trajectory, target, and ship auxiliary as a unit.		Yes				High	Does Not Exist
R - 59	The user shall be able to rotate the missile trajectory, target, and ship auxiliary as a unit.		Yes				High	Does Not Exist
R - 62	The user shall be able to maintain Configuration Management (CM) control of the target trajectories.		Yes				High	Exists
R - 63	The user shall be able to maintain CM control of missile trajectories.		Yes				High	Exists
R - 64	The user shall be able to maintain CM control of Auxiliary Sensors – TSPS footprints received from outside the lab.		Yes				High	Partially Exists
R - 66	The user shall be able to develop a missile trajectory.		Yes				Low	Partially Exists
R - 79	The user shall be able to perform launch window planning.		Yes				High	Does Not Exist
R - 94	The user shall be able to analyze radar-tracking parameters (e.g., time, position, velocity, acceleration, 3-D body orientation) for AST-to-Target launches.		Yes				Low	Does Not Exist
R - 95	The user shall be able to analyze radar-tracking parameters (e.g., time, position, velocity, acceleration, 3-D body orientation) for missile-to-target launches.		Yes				Low	Does Not Exist
R - 96	The user shall have access to all aspects of tracking during analysis to include roll angle.		Yes				High	Partially Exists

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R - 97	The user shall be able to save to a file in table format the tracking parameters for given participants and targets including: slant range, horizon angle, elevation angel, azimuth angle, aspect angle and roll angle as a function of time.	Yes	Yes				High	Does Not Exist
R - 98	The user shall be able to calculate estimated slant range vs. time during tracking parameter calculations.		Yes				High	Partially Exists
R - 99	The user shall be able to calculate Radar Cross Section (RCS) data vs. time during tracking parameter calculations..		Yes				High	Partially Exists
R - 100	The user shall be able to calculate IR history during tracking parameter calculations.		Yes				High	Partially Exists
R - 101	The user shall be able to calculate link margins during tracking parameter calculations.		Yes				High	Does Not Exist
R - 108	The user shall have access to Global Positioning Satellite (GPS) location to be used in launch window planning		Yes				High	Does Not Exist
R - 109	The user shall be able to determine where RF emission may interfere with satellites.		Yes				High	Does Not Exist
R - 110	The user shall be able to analyze link margins.		Yes				High	Partially Exists
R - 111	The user shall be able to use WGS-84 formatted data.		Yes				High	Exists
R - 115	The user shall be able to access downloaded solar data, lunar data, and COLA results in a single window.		Yes				High	Does Not Exist
R - 117	The user shall be able to rotate scenarios.		Yes				High	Does Not Exist
R - 118	The user shall be able to translate scenarios.		Yes				High	Does Not Exist
R - 119	The user shall be able to add the TSPs at the nominal		Yes				High	Exists

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	trajectory							
R - 120	The user shall be able to change the time at a waypoint for a vehicle within a scenario.		Yes				High	Exists
R - 122	The user shall be able to monitor targets real-time.				Yes		High	Exists
R - 123	The user shall be able to monitor radars real-time, via a radar status display..				Yes		High	Does Not Exist
R - 124	The user shall be able to compare radar “on target” delta azimuth and delta elevation for all sensors vs. chosen source.				Yes		High	Partially Exists
R - 128	The user shall be able to verify the instrumentation, via a decision aid that provides an indication when a set constraint is not met.				Yes		High	Does Not Exist
R - 130	The user shall be able to monitor the nominal scenario vs. actuals for all key participants during real time operations.				Yes		High	Partially Exists
R - 135	The user shall be able to monitor time on target from first detection including SNR and link margin, including predicted intercept for one (1) to many participants.				Yes		High	Does Not Exist
R - 151	The user shall be able to synchronize vehicle patterns.		Yes				High	Exists
R - 154	The user shall be provided a sensor assignment timeline graph.		Yes				High	Does Not Exist
R - 158	The user shall be able to enter the vehicle types.		Yes				High	Exists
R - 159	The user shall be able to enter the vehicle characteristics to include maximum/minimum velocity, turn rate, climb rate and launch rate, RCS, head-on and side aspect.		Yes				High	Partially Exists
R - 162	The user shall have access to three-dimensional graphically formatted profiles.		Yes	Yes			Medium	Does Not Exist

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R - 163	The user shall be able to synchronize the countdown to the mission time, via a message interface to the INET.		Yes	Yes			High	Does Not Exist
R - 164	The user shall be able to play back the mission from an operator-selectable start time.		Yes	Yes			High	Partially Exists
R - 165	The user shall be able to record real time the trajectory information.			Yes	Yes		High	Exists
R - 166	The user shall be able to iterate the scenario start.		Yes	Yes			High	Exists
R - 167	The user shall be able to iterate the scenario re-start.		Yes	Yes			High	Exists
R - 169	The user shall be able to modify and play back a modified scenario from an operator-selectable time.		Yes	Yes			High	Exists
R - 170	The user shall be able to plan functions in a standalone mode on a laptop personal computer.		Yes	Yes			High	Exists
R - 171	The user shall be able to rehearse in a standalone mode on a personal computer.		Yes	Yes			High	Exists
R - 172	The user shall be able to run an INET simulator such that it is possible to run in a standalone mode.		Yes	Yes			High	Partially Exists
R - 173	The user shall be able to run an INET simulator such that it is possible to view simulated messages when running in standalone mode.		Yes	Yes			High	Partially Exists
R - 174	The user shall be able to run the INET SIM demon to kick off the simulator.		Yes	Yes			High	Partially Exists
R - 179	The user shall be able to run through the Aux Sensor checklist in simulation mode verifying all systems go at the various time checks up to weapon launch.				Yes		High	Does Not Exist

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R - 185	The user shall be able to modify the Aux Sensor checklist.				Yes		High	Does Not Exist
R - 187	The user shall be able to incorporate status updates with all OPS participants, keeping them on time.		Yes				High	Does Not Exist
R - 188	The user shall be able to coordinate development of the Flight Test Plan (FTP) with the Aux Sensors.					Yes	High	Does Not Exist
R - 206	The user shall be able to add in the BQMs, ships and other vehicles to the scenario.		Yes				High	Does Not Exist
R - 211	The user shall be able to add range sensors, or any other sensors.		Yes				High	Exists
R - 213	The user shall be able to make telemetry assignments		Yes				High	Exists
R - 214	The user shall be able to make surveillance assignments		Yes				High	Partially Exists
R - 215	The user shall have a decision aid matrix.		Yes				High	Does Not Exist
R - 216	The user shall be able to automatically run scripts to check Scenario Planner configuration and status.		Yes				High	Does Not Exist
R - 218	The user shall be able to play back the scenario in a preview mode.			Yes			High	Exists
R - 228	The user shall be able to add detailed specifications to targets		Yes				Low	Does Not Exist
R - 229	The user shall be able to produce time marks.		Yes				High	Exists
R - 230	The user shall be able to generate the manually controlled aerial targets profile using the scenario planner.		Yes				High	Exists
R - 232	The user shall be able to generate a Generalized Overlay Generator (GOG) file of the target flight path.		Yes				High	Exists

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R - 242	The user shall be able to create down range and cross range plots for all participant vehicles.				Yes		Medium	Does Not Exist
R - 243	The user shall be able to synchronize multiple targets, showing the position/time relationship between them for use with manned targets.				Yes		Low	Does Not Exist
R - 253	The user shall be able to perform analysis of the real time scenario mission (i.e., Go/No-go)		Yes	Yes			High	Does Not Exist
R - 254	The user shall be able to perform critical risk analysis real time.			Yes			Low	Does Not Exist
R - 255	The user shall be able to identify options real time: (a) mitigation planning; (b) risk planning; (c) contingency planning; (d) rehearsal phase.			Yes			High	Does Not Exist
R - 267	The user shall be able to produce a generic "X,Y" plot from readily accessible track data.				Yes		High	Does Not Exist
R - 268	The user shall be able to link from real time to Op time to be able to time sync vehicle movement and departure times for T-0.				Yes		High	Does Not Exist
R - 293	The user shall be able to develop a Telemetry (TM) Support Plan provided by PMRF.		Yes				Medium	Does Not Exist
R - 320	The user shall be able to access a three-dimensional perspective view of planned vs. actual trajectories for the purpose of evaluating the deltas.					Yes	High	Partially Exists
R - 4	4 Display Requirements							
R - 270	The user shall be able to view a map of the test area to include the display of NIMA products (e.g., charts and		Yes				High	Exists

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	DTED) and World Vector Shoreline (WVS).							
R - 323	The user shall be able to view target launch points (GOG files) within the mapped test area location.		Yes				High	Exists
R - 324	The user shall be able to view the whole body/intact impact points of the target (GOG files) within the mapped test area location		Yes				High	Exists
R - 325	The user shall be able to view the interceptor launch points (GOG files) within the mapped test area location.		Yes				High	Exists
R - 326	The user shall be able to view the whole body/intact interceptor impact points within the mapped test area location.		Yes				High	Exists
R - 327	The user shall be able to view the location of radars (to include fixed and mobile platforms) within the mapped test area location by hooking an icon and getting amplified information.		Yes				High	Partially Exists
R - 328	The user shall be able to view the location of Firing Unit elements within the mapped test area location.		Yes				High	Exists
R - 329	The user shall be able to view the location of intercept points (to include altitude, longitude, latitude) within the mapped test area location.		Yes				High	Exists
R - 330	The user shall be able to view the target ground tracks from launch to intercept within the mapped test area location.		Yes				High	Exists
R - 331	The user shall be able to view the interceptor ground tracks from launch to intercept within the mapped test area location.		Yes				High	Exists
R - 332	The user shall be able to view the location of each air aux sensor participant (to include altitude, latitude, longitude)		Yes				High	Exists

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	within the mapped test area location.							
R - 333	The user shall be able to view the location of each surface aux sensor participant within the mapped test area location.		Yes				High	Exists
R - 335	The user shall be able to display a classification banner.		Yes				High	Does Not Exist
R - 341	The user shall be able to display a go/no-go table generated from manually entered data.		Yes				High	Does Not Exist
R - 344	The user shall be able to display a go/no-go table generated from imported data.		Yes				High	Does Not Exist
R - 314	The user shall be able to display plots showing the SNR of the telemetry signal from the target and interceptor as a function of time.		Yes				High	Exists
R - 347	The user shall be able to display the tracking parameters.		Yes				High	Does Not Exist
R - 349	The user shall be able to display slant range vs. time in table and graphic format.		Yes				High	Does Not Exist
R - 351	The user shall be able to display Radar Cross Section (RCS) data vs. time.		Yes				High	Partially Exists
R - 353	The user shall be able to display IR history during tracking parameter calculations.		Yes				High	Partially Exists
R - 355	The user shall be able to display link margins during tracking parameter calculations.		Yes				High	Partially Exists
R - 357	The user shall be able to display the test objectives of the mission.		Yes				Medium	Does Not Exist
R - 360	The user shall be able to display generic "X,Y" plots from readily accessible track data, specifying fixed scales and increments.		Yes				High	Does Not Exist

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
R - 364	All test participants shall be able to view the Mission Checklist.		Yes				High	Does Not Exist
R - 394	The user shall be able to view multiple Radar Cross Section (RCS) tables as a function of target aspect and roll angle, and polarization for a given target at a given RF band and a given percentile for each target.	Yes	Yes				High	Does Not Exist
R - 395	The user shall be able to view IR signature tables as a function of altitude and aspect angle for different wavebands.	Yes	Yes				High	Does Not Exist
R - 396	The user shall be able to display PMS-451 decision aid tool output.		Yes				Low	Does Not Exist
R - 86	The user shall be able to view solar data for user input date and time.		Yes				High	Does Not Exist
R - 87	The user shall be able to view lunar data for user input date and time.		Yes				High	Does Not Exist
R - 116	The user shall be able to display COLA window closures.		Yes				High	Does Not Exist
R - 126	The user shall be able to graphically view a plot of the sidelobe vs. main beam radar tracks.				Yes		High	Does Not Exist
R - 137	The user shall be provided a visual warning of any deviations to nominal outside set criteria limits to the plan.				Yes		High	Does Not Exist
R - 139	The user shall be provided with a visual warning of any deviations to nominal outside set criteria limits with plan modifications.				Yes		High	Does Not Exist
R - 140	The user shall be able to play back the nominal track in real time.			Yes	Yes		High	Exists

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R - 141	The user shall be able to play the simulation real time.				Yes		High	Exists
R - 142	The user shall be able to watch the nominal.				Yes		High	Exists
R - 186	The user shall be able to display the Aux Sensor checklist.				Yes		High	Does Not Exist
R - 207	The user shall be able to display graphically and in tabular format launch times and Initial Point (IP) times of all launches based on input T-0 time.		Yes				High	Exists
R - 208	The user shall be able to display the overlays.		Yes				High	Exists
R - 283	The user shall be able to view user-specified coastlines in GOG and World Vector Shoreline (WVS) formats within the mapped test area location.		Yes				High	Exists
R - 284	The user shall be able to view user-specified Hawaiian Islands chain in GOG and World Vector Shoreline within the mapped test area location.		Yes				High	Exists
R - 285	The user shall be able to view user-specified geographic features within the mapped test area location.		Yes				High	Exists
R - 286	The user shall be able to view user-specified fixed air routes within the mapped test area location.		Yes				High	Exists
R - 287	The user shall be able to view user-specified transient air routes within the mapped test area location.		Yes				High	Exists
R - 288	The user shall be able to view latitude/longitude grid annotations within the mapped test area location.		Yes				High	Exists
R - 290	The user shall be able to view the distances between the Firing Unit elements within the mapped test area location.		Yes				High	Exists
R - 291	The user shall be able to plot Altitude vs. Time of planned and actual trajectories for each target within each scenario.		Yes				High	Partially Exists

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
R - 292	The user shall be able to plot the down-range Distance vs. Time of each target within each scenario.		Yes				High	Partially Exists
R - 295	The user shall be able to view, in tabular format with color codes, the minimum acceptable data sources for the safety solution to include radars and vehicle telemetry.		Yes				High	Does Not Exist
R - 296	The user shall be able to view instrumentation requirements in tabular format for the target within each scenario.		Yes				High	Does Not Exist
R - 297	The user shall be able to view instrumentation requirements for the interceptor within each scenario.		Yes				High	Does Not Exist
R - 298	The user shall be able to view flight termination criteria in tabular format for the target within each scenario.		Yes				High	Exists
R - 299	The user shall be able to view flight termination criteria for the intercept or within each scenario as GOG files.		Yes				High	Exists
R - 300	The user shall be able to view flight boundaries and associated hazard debris footprints for the target within each scenario.		Yes				High	Exists
R - 301	The user shall be able to view flight termination boundaries and associated hazard debris footprints for the interceptor within each scenario.		Yes				High	Exists
R - 302	The user shall be able to view the frequency range of command-destruct system within each scenario in tabular format.		Yes				High	Does Not Exist
R - 304	The user shall be able to view Test Support Positions (TSPs) for each mobile air aux sensor participant within each scenario.		Yes				High	Exists
R - 305	The user shall be able to view TSPs for each mobile surface		Yes				High	Exists

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
	aux sensor participant within each scenario.							
R - 306	The user shall be able to view vehicle vs. maximum range, in tabular or graphical format, coverage within each scenario.		Yes				High	Does Not Exist
R - 361	The user shall be able to determine blockages using shadow graphs.		Yes				High	Does Not Exist
R - 307	The user shall be able to view times of detection in tabular or graphical format within each scenario.		Yes				High	Does Not Exist
R - 308	The user shall be able to identify additional instrumentation required supporting range safety operations within each scenario.	Yes	Yes				High	Does Not Exist
R - 319	The user shall be able to monitor actual trajectories vs. planned trajectories during real-time operations.				Yes		High	Exists
R - 5	5 Communications Requirements							
R - 112	The user shall be able to download current GPS data elements via INET through message 25 to be used in launch window calculation.		Yes				Medium	Does Not Exist
R - 113	The user shall be able to download screen Kinetic Warhead (KW) solar exclusion satellite Collision Avoidance (COLA) results.		Yes				High	Does Not Exist
R - 114	The user shall be able to download screen KW lunar exclusion satellite Collision Avoidance (COLA) results.		Yes				High	Does Not Exist
R - 6	6 Output Requirements							

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
R - 337	The user will be able to output a report/graph showing emitters and their operating frequencies		Yes				High	Does Not Exist
R - 345	The user shall be able to output plots showing signal-to-noise ratio (SNR) to the printer		Yes				High	Does Not Exist
R - 348	The user shall be able to print the tracking parameters in table format.		Yes				High	Does Not Exist
R - 350	The user shall be able to print and plot slant range vs. time in table and graphic format		Yes				High	Does Not Exist
R - 352	The user shall be able to print and plot RCS data vs. time in table and graphic format.		Yes				High	Partially Exists
R - 354	The user shall be able to print IR history during tracking parameter calculations.		Yes				High	Partially Exists
R - 356	The user shall be able to print link margins during tracking parameter calculations.		Yes				High	Partially Exists
R - 358	The user shall be able to output data from the Scenario Planner to a file format that will allow easy import to MS Powerpoint.		Yes				High	Partially Exists
R - 373	The user shall be able to output single nominal trajectories for a given launch vehicle where trajectory coordinate frame should be standard (WGS-84 ECI with epoch at t=0, ECEF or geodetic) and include time, position, velocity acceleration and 3-dimensional body orientation (Euler angles or direction cosine matrix).	Yes	Yes				High	Does Not Exist
R - 374	The user shall be able to output multiple off-nominal (-100) trajectories for a given launch vehicle where trajectory coordinate frame should be standard (WGS-84 ECI with epoch at t=0, ECEF or geodetic) and include time, position,	Yes	Yes				High	Does Not Exist

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
	velocity acceleration and three-dimensional body orientation (Euler angles or direction cosine matrix).							
R - 375	The user shall be able to plot the tracking parameters for given participants and targets including: slant range, horizon angle, elevation angel, azimuth angle, aspect angle and roll angle as a function of time.	Yes	Yes				High	Does Not Exist
R - 376	The user shall be able to print multiple Radar Cross Section (RCS) tables as a function of target aspect and roll angle, and polarization for a given target at a given RF band and a given percentile for each target.	Yes	Yes				High	Does Not Exist
R - 377	The user shall be able to print IR signature tables as a function of altitude and aspect angle for different wavebands.	Yes	Yes				High	Does Not Exist
R - 378	The user shall be able to print signature vs. time reports for a given participant.	Yes	Yes				High	Does Not Exist
R - 379	The user shall be able to output an overall launch window closure table for a given time span on a given day.	Yes	Yes				High	Does Not Exist
R - 380	The user shall be able to plot all window closures for various criteria.	Yes	Yes				High	Does Not Exist
R - 381	The user shall be able to plot an overall launch window for a given day (primary or backup launch day).	Yes	Yes				High	Does Not Exist
R - 41	The user shall be able to export quick-look reports into MS Power Point.					Yes	High	Does Not Exist
R - 7	The user shall be able to generate scenario files that can be transferred to other SP systems in binary format.		Yes				High	Exists
R - 10	The user shall be able to export scenario files in generic text format.		Yes				High	Partially Exists

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
R - 11	The user shall be able to export scenario files with format to be determined.		Yes				Medium	Does Not Exist
R - 12	The user shall be able to post scenario files to the web in a format to be determined.		Yes				Medium	Does Not Exist
R - 38	The user shall be able to output a three-dimensional perspective view of planned vs. actual trajectories in viewgraph format for the purposes of evaluating the models.					Yes	High	Does Not Exist
R - 69	The user shall be able to output generic footprint patterns (GOG files) with labels in planned scenarios.		Yes					
R - 80	The user shall be able to export estimated IR signature history.		Yes				Medium	Does Not Exist
R - 81	The user shall be able to export estimated RF signature.		Yes				Medium	Does Not Exist
R - 83	The user shall be able to print a Sensor ID/Vehicle ID form.		Yes				High	Does Not Exist
R - 84	The user shall be able to print a manually entered summary of the Operation.					Yes	High	Does Not Exist
R - 85	The user shall be able to print out collected track data from the operation as specified by the user.					Yes	High	Does Not Exist
R - 129	The user shall be able to print an SRR report identifying the equipment used during the operation.					Yes	High	Does Not Exist
R - 143	The user shall be able to generate real time data products.				Yes		High	Partially Exists
R - 144	The user shall be able to access records of real time occurrences.					Yes	High	Does Not Exist
R - 145	The user shall be able to generate alternate scenario plan definitions at a time $T+x$, where x is a user-defined number.		Yes				High	Does Not Exist

Object ID	User Requirements for the PMRF Scenario Planner	Pre-Planning Rqmt	Planning Rqmt	Rehearsal Rqmt	Real-Time Ops Rqmt	Post-Ops Rqmt	User Priority	Rqmt Status
R - 146	The user shall be able to generate approved missions that transition from working plans into certified plans.		Yes				High	Does Not Exist
R - 147	The user shall be able to collect data from the Operation.					Yes	High	Partially Exists
R - 148	The user shall be able to post collected Operations data.					Yes	High	Exists
R - 155	The user shall be able to output the sensor assignment timeline graph as a file.		Yes				High	Partially Exists
R - 189	The user shall provide data to prepare a report to document lessons learned.		Yes				High	Partially Exists
R - 190	The user shall provide data to support the following events, to include sensor acquisition and tracking: Mission Control Panel (MCP) -> Mission Readiness Review -> Mission Rehearsal -> Flight test -> 60-day review.		Yes			Yes	High	Does Not Exist
R - 191	The user shall be able to print a Mission Checklist.		Yes				High	Does Not Exist
R - 192	The user shall be able to output a Lessons Learned Report.					Yes	High	Does Not Exist
R - 209	The user shall be able to print a timeline document as a graph or table.		Yes				High	Does Not Exist
R - 220	The user shall be able to output to a file Vehicle reports, describing selected vehicle location vs. time, in ASCII text format.		Yes				High	Partially Exists
R - 221	The user shall be able to output to an ASCII file Waypoint reports containing time and performance.		Yes				High	Partially Exists
R - 231	The user shall be able to transfer data to a Microsoft Excel spreadsheet.		Yes				High	Partially Exists
R - 233	The user shall be able to output the Mission Profile.		Yes				High	Does Not

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								Exist
R - 234	The user shall be able to create or save Generalized Overlay Generator (GOG) in Microsoft Excel spreadsheet format and strip out extraneous data.		Yes				High	Does Not Exist
R - 245	The user shall be able to produce a target performance report					Yes	High	Partially Exists
R - 257	The user shall receive on screen notification as oart if a decision aid. (Preferred MO)			Yes			High	Does Not Exist
R - 264	The user shall be able to output a vehicle ID table.		Yes				High	Partially Exists
R - 265	The user shall be able to output a Sensor ID table.		Yes				High	Partially Exists
R - 321	The user shall be able to output a three-dimensional perspective view of planned vs. actual trajectories in viewgraph format for the purposes of evaluating the models.					Yes	High	Does Not Exist