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PERSONNEL AND
READINESS

JUL 29 2004

MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE,
MANPOWER & RESERVE AFFAIRS
CHIEF OF NAVAL PERSONNEL, N1
COMMANDING GENERAL, TRAINING AND EDUCATION COMMAND,
QUANTICO, VA

SUBJECT: Joint Strike Fighter (JSF) Initial Flying Training Basing Requirements

A 19 May 2003, USD (AT&L) memorandum made site selection for the Joint Strike Fighter (JSF) initial training base(s) part of the BRAC process. The BRAC 2005 Education and Training Joint Cross Service Group (E&T JCSG) is leading this effort and a fully vetted Basing Discriminator Matrix with "BRAC Certified" criteria is key to our success.

In order to meet expectations for recommending the placement of JSF initial flying training activities at the best possible base, E&T JCSG needs experts from each Service to review, validate and, where applicable, expand on criteria in the proposed matrix (atch 1) and support notes (atch 2). Inputs should be forwarded to the Flight Training Subgroup no later than 13 August 2004; names of your Service POC are needed by 2 August 2004.

E&T JCSG members fully appreciate the complexity of JSF decisions at hand. Our aim in this exercise is to capture criteria necessary to find the optimal installation for JSF initial flight training. However, while this matrix centers on attributes for flying training, it will also serve as a tool when we develop recommendations that could make JSF initial flying and maintenance training a joint, combined, or collocated enterprise on a single base.

Senior leaders from each Service will be involved in the analysis and have a chance to review and comment on E&T JCSG recommendations at ISG and Infrastructure Executive Council levels. CAPT Gene Summerlin, USN, E&T JCSG, Chairman, Flying Training Subgroup, (703) 602-6431, gene.summerlin@navy.mil or Colonel Jimmie Simmons, (703) 693-6586, simmons.jimmie@hq.navy.mil are the points of contact for questions on this initiative.

Charles S. Abell
Principal Deputy Under Secretary of
Defense (Personnel & Readiness)
Chairman, Education & Training Joint
Cross-Service Group

Attachments:
1. JSF Basing Discriminators Matrix
2. JSF Basing Discriminators Notes

cc: DUSD(R)
E&T JCSG Principal Members

JOINT STRIKE FIGHTER (JSF)
BASING DISCRIMATORS FOR USAF/USN/USMC

Above Ground Level (AGL)
Air to Air (AA)
Air to Ground (AG)
Field Carrier Landing Practice (FCLP)
Mean Sea Level (MSL)
Military Operating Area (MOA)
Main Operating Base (MOB)
Nautical Mile (NM)
Simulated Flameout (SFO)
Statute Mile (SM)

JOINT STRIKE FIGHTER (JSF)
BASING DISCRIMATORS FOR USAF/USN/USMC

Note	CATEGORY	Desired	Min Required	Unacceptable
1		AIRFIELD		
2	MOB	≥ 2 Parallel 9,000 x 200 foot runways	Single or 2 crossed 8,500 x 150 foot runways w/room to add parallel runway & expand two to 9,000 x 200 feet	Runway < 8,500 x 150 foot w/o capacity to extend runway or add parallel runway
3	Parking Ramp	Park ≥ 140 aircraft	Park 75 acft w/room to add 65 acft	Park < 75 aircraft
4	Arm/De-arm Pads	24 pads (12 at each end of main runway)	12 pads at one end of pri runway	No arm/de-arm capability
5	MOB Fld Elevation	< 1,000 MSL	1,000 to 3,000 MSL	> 3,000 MSL
6	Aux Field	8,500 x 150 foot < 50NM from MOB	8,500 x 150 foot 50NM from MOB	< 8,500 x 150 foot and/or > 50NM from MOB
7	Aux Fld Availability	24-hour operations	18-hour to 24-hour operations	< 18-hour operations
8	Aux Fld Elevation	Sea level to 1,000 MSL	1,000 MSL	> 1,000 MSL
9	Aux Fld to Carrier	< 600NM	600NM	> 600NM
10		AIRSPACE/RANGE		
11	MOB and/or Aux Fld	SFO pattern at both	SFO pattern at MOB or Aux	No room for SFO pattern
12	Low Level Routes	≥ 3 Routes w/Entry ≤ 90NM from MOB	≥ 2 Routes; Entry ≤ 90NM from MOB	No routes and/or Entry > 90NM from MOB
13		MOA		
14	Dist from MOB	< 120 NM	120 to 240 NM	> 240 NM
15	AG Range Size	> 1,600 Sq/Mi in/beside MOA	250 to 1600 Sq/Mi Not collocated with MOA	< 250 Sq/Mi 25NM x 25NM
16	AG Range Alt	Surface to 30K+ AGL	Surface to 20K AGL	
17	AA Range Size	3,200 Sq/Miles	1,800 to 3,200 Sq/Miles	< 625 Sq/Mi
18	AA Range Alt	Surface to 50K AGL	Surface to 25K AGL	
19	Range Capacity	> XX Sorties/day	XX to YY sorties/day	YY < sorties/day
20	Range Capabilities	Live weapon & electronic	No live weapon and/or electronic (inert weapon)	No inert or live weapon
		WEATHER		
21	Ceiling & Visibility	≥ 3,000 & 3 SM	≥ 3,000 & 3 SM	≥ 3,000 & 3 SM
	MOB	≥ 300 days/year	≥ 200 days/year	< 200 days/year
	Aux Field	≥ 250 days/year	≥ 200 days/year	< 200 days/year
	Range	≥ 250 days/year	≥ 200 days/year	< 200 days/year
	Density Altitude for MOB and Aux Field	< XXX ft Density Alt > 300 days/year	XXX to YYY ft Density Alt ≥ 200 days/year	> YYY ft Density Alt < 200 days/year
		ENVIRONMENTAL		
	Pollutant Emissions	Attainment	Non-attainment w/Mitigation	Non-attainment w/oMitigation
	Noise Emissions	≤ 65 DNL no residential development	Noise 66 to 75 DNL with residential development	
		TEMPO		
		Unimpeded		Unable to meet training/syllabus requirements
		CURRENT MISSION(S)		
		Compatible	Relocateable	Incompatible/not moveable

JOINT STRIKE FIGHTER (JSF)
BASING DISCRIMATORS FOR USAF/USN/USMC (NOTES PAGE)

1	AIRFIELD CONSIDERATIONS. The attached matrix presupposes beddown installation(s) for Joint Strike Fighter initial flight and technical qualification-training unit(s) shall meet or exceed customary capabilities of fully-functioning military installation(s) with flight and/or technical training mission(s). Further, it presumes candidate installations' infrastructure and industrial/support facilities shall meet (or exceed) traditionally accepted DoD Instruction XX-XXXX standards for flight and maintenance operations as well as base support and/or quality of life activities for personnel assigned JSF initial training duty (permanent party military/civilian, contract support, and students). Finally, this matrix makes installation(s) proximate to civil/commercial airfields where commercial or military operations would unacceptably impede operations at either installation ineligible for consideration as the initial beddown site for initial JSF flight training. This matrix focuses on desired and minimally acceptable criterion for infrastructure/facilities necessary to conduct unique aspects of JSF flight or maintenance training so as to narrow the myriad choices of suitable airfields SecDef and Service Secretaries may select for initial JSF (joint, combined, or collocated) training location(s). Should facilities at existing candidate installation(s) fall short of desired but satisfy minimally acceptable criterion for a discriminator (i.e. suitable to host a cadre force that would commence unique aspects of JSF training), a JCSG Flight Training Subgroup recommendation to place a portion of or all of the initial flight and/or maintenance training on that installation presumes appropriate agencies will make every effort to construct or modify "deficient" infrastructure or facilities (runways, taxiways, parking aprons, arming pads, buildings or other structures) to reach desired standard(s) to accommodate the entire population and training mission projected as the JSF initial training (flight and maintenance) "end state".
2	RUNWAY CONSIDERATIONS. JSF prototype aircraft presently require a 9,000 by 200 foot runway to conduct the full spectrum of normal operations. Two or more parallel runways will permit near simultaneous formation departures and recoveries as well as instrument and visual flight training and allow for emergency recoveries while other runway(s) remain open for normal takeoffs/landings. Installations with two crossing runways (one or both 8,500 by 150 foot (minimum) or both 9,000 by 200 foot (desired)) meet minimum requirements provided there is sufficient real estate in near proximity to lengthen/widen runway(s) to 9,000 by 200 feet and to construct an additional 9,000 by 200 foot parallel runway at a later date. Installation(s) with a single 8,500 x 150 ft runway meet minimum requirements provided there is a dedicated (24/7) emergency recovery runway within 50NM of the MOB and there is sufficient real estate in near proximity to lengthen/widen that runway to 9,000 by 200 feet and to construct an additional 9,000 by 200 foot parallel runway at a later date.
3	PARKING APRON CONSIDERATIONS. Parking ramp size must support fleet of aircraft as indicated in the matrix.
4	ARM/DE-ARM CONSIDERATIONS. Arm/de-arm pads must provide for traditional safety zones from people and/or facilities.
5	FIELD ELEVATION CONSIDERATIONS. MOB field elevation from sea level up to 1,000 AGL will more closely approximate conditions Naval Aviators will face during carrier operations. Field elevations above 3,000MSL place JSF aircraft in a portion of their operational envelope unacceptable to initial qualification training.
6	AUXILARY AIRFIELD CONSIDERATIONS. Aux fields reduce traffic pattern congestion/saturation at the MOB while permitting student pilots to practice multiple day/night approaches and landings. JSF initial-qualification syllabus will require some (service specific) students to perform multiple approaches to include: field carrier landing practice (FCLP), simulated emergency landings (engine flameout patterns), short takeoff/vertical landings, overhead patterns, and instrument approaches/patterns to low-approaches and touch-and-go or full-stop landings. Therefore, Aux field(s) must be appropriately configured for FCLP, meet FAA controlled airfield criteria, and house sufficient fire-fighting and aircraft-recovery equipment to serve as an alternate recovery airfield. Airfields that meet minimum criterion shall include sufficient expansion capacity to meet desired criterion at a later date.
7	Aux Field must be accessible at least 18 hours a day in a 24-hour period.
8	Aux Field elevation from sea level up to 1,000 MSL will more closely approximate conditions Naval Aviators will face when operating JSF. Elevations above 1,000 MSL will require mission training for FCLP at follow-on training.
9	Aux Field distance to carrier
10	AIRSPACE/RANGE CONSIDERATIONS. This matrix presupposes service-unique and joint/combined JSF initial flight qualification syllabi will mandate instruction in basic flight maneuvers and (air-to-air as well as air-to-ground) air combat tactics unique to JSF operations. JSF Flight instructors and their students will need sufficient protected airspace to permit them to focus on training vice divert their attention to avoid other non-participating aircraft that may unwittingly penetrate the military operating area (MOA) or airspace over ground ranges/impact areas. This category outlines desired and minimum criterion for size of airspace required over the MOB, in the MOA, over impact areas, etc., as well as associated equipment ground support necessary for JSF training.

JOINT STRIKE FIGHTER (JSF)
BASING DISCRIMATORS FOR USAF/USN/USMC (NOTES PAGE)

11	JSF will require engine flameout training; MOB or Aux Field must permit Simulated Flameout pattern/training.
13	MOA needs to be equipped for ACMI/TACTS, be supersonic approved, and permit pilots to drop chaff and flares.
14	Distances from MOB to center of the primary (closest suitable) MOA for initial qualification training (based on 6NM/Min as time/distance relationship, JSF prototype will transit 120 NM in 20 min flight time equates to 40 minutes "in transit" to/from MOA during 60 minute training sortie).
15	Size of range necessary to conduct initial air-to-ground flight training. Desirable to have this airspace within confines or collocated with (share common boundary) an MOA to permit instruction in ingress/egress profiles for bombing deliveries.
16	Defines vertical limit of the top of the range airspace to conduct initial air-to-ground training
17	Size of range necessary to conduct initial air-to-air flight training. Airspace geometry should allow for 4 areas sufficient to permit simultaneous missions.
18	Defines vertical limit of the top of the range airspace to conduct initial air-to-air training
19	Number of sorties the primary range can support each day (24 hour period). Must define variables (XX and YY) values using the JSF training syllabus where XX equals max number of sorties to conduct student and IP proficient training and YY equals minimum number of sorties to conduct student training.
20	JSF ranges that permit live-fire missions and include electronic emitters to simulate enemy threats will permit students to learn the full the spectrum offensive and defensive systems aboard the aircraft.
21	WEATHER CONSIDERATIONS. Weather criteria based on initial qualification students with little or no jet aircraft experience.
22	Requires firm data regarding aircraft performance parameters to determine appropriate criteria for density altitude. This exercise assumes training syllabus will include up to 6 vertical landings (VLs). Base data on empty aircraft (no armaments on board) fueled as necessary to conduct 6 VLs plus minimum emergency divert/on deck fuel.