DISPERSANT AIRCRAFT CAPABILITY FORM

PLATFORM LOCKHEED ORION P-3A

Operator: -----
OSRO: -----

P-3A dropping fire retardant
Photo compliments of Aero Union, Inc.

DATA SOURCE LEGEND

1. **(Black):**   **Indicates the data are based on documented field trials or is a fixed design value**

2. **(Blue):**   **Indicates the data are based on limited field observations or operator's stated practice or stated value (little or no documentation)**

3. **(Red):**   **Indicates the data are based on reasonable calculations or performance of comparable systems**

		Unit	U.S. Regulatory Calculation Values	Data Source 1-2-3	Range	Reference(s)
	AIRCRAFT PARAMETERS					
1	Swath Width	feet	**150**	**3**	**100-150**	**Estimated from L-188 operations**
	a. Application (gallons per acre)	gpa	**5**	**3**	**1-10**	**Estimated from L-188 operations**
	b. Altitude	feet	**50**	**3**	**50-125**	**Estimated from L-188 operations**
	c. Application Speed	knots	**150**	**3**	**130-200**	**Estimated from P3 specifications**
	d. Pump Rate (gallons per minute)	gpm	**-----**	**3**	**50-600**	**Estimated from ADDS Pack**
	e. Boom Pressure (pounds/square inch)	psi	**-----**	**3**	**15-45**	**Estimated from ADDS Pack**
2	Transit Speed at Altitude From Base to Staging Airport	knots feet	**360**	**2**	**250-360**	**Aero Union operator**

#	Parameter	Units				Comments
3	Transit Speed at Altitude Staging Airport to/from spill	knots feet	**250**	**2**	**250-350**	**Aero Union operator**
4	Dispersant Spraying Reposition Speed	knots	**150**	**3**	**150-200**	**Estimated value from standard operations**
5*	Time to Fully Load Dispersant Tank	min	**27**	**3**	**25-60**	**Estimate based on loading 4,000 g dispersant at 240 gpm +10 min connect, disconnect and setup**
6*	Time to Fully Load Fuel Tanks	min	**21**	**3**	**20-90**	**Estimate based on loading 2,500 g at 240 gpm + 10 min connect, disconnect and setup**
7	Load Dispersant & Fuel simultaneously (Yes/No)	-----	**Y**	**1**	**Y**	**Aero Union operator. See Other Comments below 5*& 6***
8	Time to Make U-turn (Turn 180 degrees)	min	**1.75**	**3**	**1.0-2.0**	**Estimate based on other operators**
9	Dispersant Payload Maximum	gal	**4,000**	**3**	**3,500-4,000**	**Aero Union operator**
10	Fuel with maximum dispersant payload	lbs	**17,000**	**1**	**17,000**	**Aero Union operator with 33,000 lb payload**
11	Approach Distance for spraying	nm	**1.0**	**3**	**1.0-2.0**	**Estimated from other large aircraft operators**
12	Departure Distance for spraying	nm	**1.0**	**3**	**1.0-1.5**	**Estimated from other large aircraft operators**
13	Taxi Time Take-Off	min	**15**	**2**	**10-30**	**Exercise observation for C-130 operation**
14	Taxi Time Landing	min	**15**	**2**	**10-30**	**Exercise observation for C-130 operation**
15	On-site Check-In/Safety Time	min	**10**	**2**	**5-15**	**Exercise observations**
	CASCADE PARAMETERS*					
16	Take-off with **Maximum Payload and Maximum Take-off Weight** (assume no wind and **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**4.0**	**2**	**4.0**	**Aero Union operator**
	b. Maximum Flight Range	nm	**1,000**	**2**	**1,000**	**Aero Union operator**
	c. Optimal Altitude	feet	**19,000**	**3**	**19,000**	**Estimated from operating altitude for L188**
	d. True Air Speed	knots	**250**	**2**	**250**	**Aero Union operator**
	e. Fuel Consumption	lbs/hour	**4,250**	**3**	**4,000-5,000**	**Estimated from fuel consumption for L188**
17	Take-Off with **Maximum Fuel and No Payload** (assume no wind and **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**12**	**2**	**12**	**Aero Union operator**
	b. Maximum Flight Range	nm	**2,700**	**2**	**2,700**	**Aero Union operator**
	c. Optimal Altitude	feet	**19,000**	**3**	**19,000**	**Estimated from operating altitude for L188**
	d. True Air Speed	knots	**225**	**2**	**225**	**Aero Union operator**
	e. Fuel Consumption	lbs/hour	**5,000**	**3**	**4,000-5,000**	**Estimated from fuel consumption for L188**

18	Staging area briefing	min	**45**	**2**	**30-60**	**Exercise observation**
	AIRPORT PARAMETERS					
19	Runway length - **Minimum** (For take-off at maximum gross weight assuming sea level, 90° F, no wind using a balanced field concept, i.e., go, no go speed)	feet	**4,000**	**2**	**4,000**	**Aero Union operator**
20	Runway weight restrictions for maximum aircraft weight	lbs	**105,000**	**2**	**105,000**	**Aero Union operator**
	OTHER COMMENTS					
5*- 6*	The time to load dispersants and fuel are stand alone times independent of each other. If item 7 indicates that fuel and dispersants can be loaded simultaneously, then the longer of fuel or dispersant load time is used in the capability calculations. If item 7 indicates fuel and dispersants can NOT be loaded simultaneously, then the times are added together to calculate the aircrafts capability. To load simultaneously depends upon the airport, aircraft, and support crew. The loading times depend upon the loading system i.e., 5000 tank truck, 55 gallon drums or other means and the pumping system used. The time shown in items 5 and 6 is for loading from a tank truck which is standing by ready to commence loading when the aircraft comes to a stop in the loading area, i.e. the fastest loading time possible.					
*	**Cascade Parameters**: The aircraft's calculated capability when cascading uses the same fuel loading and taxi times for dispersant operations as listed in items 6, 13 and 14.					

Revised   February 2, 2007