DISPERSANT AIRCRAFT CAPABILITY FORM

PLATFORM

Hercules C-130A
with internal dispersant tank

Operator: International Air Response, Inc.
OSRO: Marine Spill Response Corp.

Photo compliments of International Air Response, 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**	**1**	**100-150**	**IAR Spray test May 06**
	a. Application (gallons per acre)	gpa	**5**	**1**	**1-10**	**IAR spray system static test October 2006**
	b. Altitude	feet	**75**	**1**	**50-100**	**IAR spray test May 06**
	c. Application Speed	knots	**150**	**1**	**150-200**	**IAR spray test May 06**
	d. Pump Rate (gallons per minute)	gpm	**294**	**1**	**60-523**	**IAR field tests May 2006**
	e. Boom Pressure (pounds/square inch)	psi	**40**	**1**	**30-100**	**IAR field tests May 2006**
2	Transit Speed at Altitude From Base to Staging Airport	knots feet	**298** **20,000**	**1**	**250-320** **16,000-24,000**	**International Air Response, Inc. (IAR) field test Nov 06**
3	Transit Speed at Altitude Staging Airport to/from spill	knots feet	**298** **10,000**	**1**	**230-298** **10,000**	**IAR field test May-Aug 2006 & FAA Certificate**
4	Dispersant Spraying Reposition Speed	knots	**150**	**1**	**150-180**	**Spray test May 2006**
5*	Time to Fully Load Dispersant Tank	min	**20**	**2**	**15-60**	**IAR operator**

6*	Time to Fully Load Fuel Tanks	min	**20**	**2**	**15-40**	**IAR operator**
7	Load Dispersant & Fuel simultaneously (Yes/No)	-----	**Yes**	**1**	**Yes**	**IAR operator. See Other Comments below in 5*-6***
8	Time to Make U-turn (Turn 180 degrees)	min	**1.67**	**1**	**1.25-2.0**	**IAR Nov 2006 exercise Satloc record**
9*	Dispersant Payload Maximum	gal	**3,250**	**1**	**2,900-3,360**	**IAR operator. See Other Comments 9***
10	Fuel with maximum dispersant payload	lbs	**27,200**	**1**	**27,200**	**IAR operator**
11	Approach Distance for spraying	nm	**1.0**	**2**	**1.0-2.0**	**IAR & Lynden Air Cargo operators**
12	Departure Distance for spraying	nm	**1.0**	**2**	**1.0-1.5**	**IAR, Lynden Air Cargo & SAFAIR operators**
13	Taxi Time Take-Off	min	**15**	**2**	**5-30**	**Exercise observation; SAFAIR & Lynden Air Cargo operator**
14	Taxi Time Landing	min	**15**	**2**	**5-30**	**Exercise observation; IAR operator**
15	On-site Check-In/Safety Time	min	**10**	**2**	**5-15**	**Exercise observation**
	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	**4.7**	**2**	**4.7-5.4**	**IAR & TBM operators**
	b. Maximum Flight Range	nm	**1,400**	**2**	**1,081-1,609**	**IAR & TBM operators**
	c. Optimal Altitude	feet	**16,000**	**2**	**15,000-19,000**	**IAR & TBM operators**
	d. True Air Speed	knots	**298**	**2**	**230-298**	**IAR & TBM operators**
	e. Fuel Consumption	lbs/ hour	**5,000**	**2**	**4,400-5,000**	**IAR & TBM operators**
17	Take-Off with **Maximum Fuel and No Payload** (assume no wind and **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**7.0**	**2**	**6.0-8.0**	**IAR & TBM operators**
	b. Maximum Flight Range	nm	**2,086**	**2**	**1,500-2,960**	**IAR & TBM operators**
	c. Optimal Altitude	feet	**20,000**	**2**	**18,000-25,000**	**IAR & TBM operators**
	d. True Air Speed	knots	**298**	**2**	**250-370**	**IAR & TBM operators**
	e. Fuel Consumption	lbs/ hour	**3,600**	**2**	**3,360-4,500**	**IAR & TBM operators**
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	**4,800**	**2**	**4,000-4,800**	**IAR and TBM, Inc. operators**
20	Runway weight restrictions for maximum aircraft weight	lbs	**124,200**	**1**	**120,000-124,200**	**IAR & TBM, Inc. operators**

	OTHER COMMENTS
5*-6*	The time to load dispersants and fuel are standalone 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.
9*	The dispersant payload volume (gallons) that can be carried is based on the specific gravity of the dispersant and the specific aircraft's weight limitations for take-off. Therefore there is a range of amounts of dispersant that can be carried as payload on a specific spill response.
*	**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. Payload, range, and endurance are all dependent upon the specific gravity of the dispersant as well as temperature, humidity, airport altitude and many other factors and should used as guides only.