

A second problem instance for ICAPS paper

by Lin.Zhang@dsto.defence.gov.au 15/01/2004

Desired end state: Enemy forces on Webber Island evicted.

Initially valid conditions: Liaison with coalition satellite ISR established.

Resources:

40	Regional Force Surveillance Unit
10	SF RECON Unit
24	Maritime Patrol Aircraft
48	Fighter Aircraft
2	ECSS units
32	Strike and Reconnaissance Aircraft
10	SF Strike Unit
6	Submarine
12	AAR Aircraft
6	Battalion
2	LPA
10	LSH
8	Landing Craft Heavy
40	Helicopter
1	Airborne Battalion
12	Frigate
2	Satellite Surveillance Unit
6	IO Squadron
6	Mine Counter Measure Ship

Resource Cost (in order from high to low):

Battalion	=	Airborne Battalion			
SF Strike Unit	=	SF RECON Unit			
IO Squadron	=	ECSS units	=	Satellite Surveillance Unit	= Regional Force Surveillance Unit
LPA					
Frigate					
Submarine					
Strike and Reconnaissance Aircraft					
Fighter aircraft					
Maritime Patrol Aircraft					
Mine Counter Measure Ship					
AAR Aircraft					
Landing Craft Heavy		LSH			
Helicopter					

UNCLASSIFIED

ID	Task Name	Preconditions	Effects	Start Time	Duration	Multiplicity	Sync	Resources	Lost Resources if Successful	Lost Resources if Failed	Prob of Success
1	Conduct vital asset protection operation		1. Vital assets protected (SE) 2. APODs along our own LOCs protected (SE) 3. SPODs along our own LOCs protected (SE)		As required	As required		16 of Regional Force Surveillance Unit		4 of Regional Force Surveillance Unit	99%
2	Conduct rear area security operation	1. Forward mounting base maintained (SP) 2. En route refueling provided (SP)	1. Local air control established (SE)		As required	As required		16 of Regional Force Surveillance Unit		6 of Regional Force Surveillance Unit	99%
3	Conduct combat air patrol	1. Forward mounting base maintained (SP)	1. Local sea sub-surface control established (SE)		As required	As required		8 of Fighter Aircraft		2 of Fighter Aircraft	90%
4	Conduct suppression of enemy air defence operation	1. Local air control established (SP)	1. Enemy air defence suppressed (SE)		As required	As required		6 of Fighter Aircraft		2 of Fighter Aircraft	95%
5	Establish air superiority in the vicinity of Webber Island	1. Logistics support established (NP) 2. Local air control established (SP) 3. Enemy air defence suppressed (SP)	1. Air superiority in the vicinity of Webber Island established (SE)		As required	As required					95%
6	Establish forward mounting base		1. Forward mounting base established (PE)	ASAP	96 Hours	1		1 of ECSS units			99%
7	Establish ISR in the vicinity of Webber Island with special forces	1. Special forces inserted into Webber Island (NP)	1. ISR established in the vicinity of Webber Island (SE)		As required	As required		4 of SF RECON Unit		1 of SF RECON Unit	70%
8	Insert special forces		1. Special forces inserted into Webber Island (PE)	ASAP	52 Hours	1		6 of SF RECON Unit 8 of SF Strike Unit 1 of Submarine		4 of SF RECON Unit 4 of SF Strike Unit 1 of Submarine	95%
9	Maintain forward mounting base	1. Forward mounting base established (NP)	1. Forward mounting base maintained (SE)		As required	As required		1 of ECSS units			99%
10	Provide air-to-air refueling	1. Forward mounting base maintained (SP)	1. En route refueling provided (SE)		As required	As required		4 of AAR Aircraft		1 of AAR Aircraft	98%
11	Establish logistics support	1. Forward mounting base established (NP) 2. Sea mines cleared (NP) 3. Sea control along our own SLOCs established (SE) 4. Air control along our own LOCs established (SE) 5. APODs along our own LOCs protected (SE) 6. SPODs along our own LOCs protected (SE) 7. Vital assets protected (SE) 8. Rear area secured (SE)	1. Logistics support established (SE)		As required	As required					92%
12	Conduct amphibious landing on Webber Island	1. POE on Webber Island secured (NP) 2. Enemy C2 on Webber Island degraded (NP)	1. Amphibious forces landed on Webber Island (PE)	ASAP	8 Hours	1		4 of Battalion 2 of LPA 2 of LSH	1 of LSH 1 of Landing Craft Heavy	1 of Battalion 1 of LPA 4 of LSH	90%

UNCLASSIFIED

		3. ISR established in the vicinity of Webber Island (SP) 4. Air superiority in the vicinity of Webber Island established (SP) 5. Sea control established in the vicinity of Webber Island (SP) 6. Naval gunfire support provided (SP)						6 of Landing Craft Heavy		2 of Landing Craft Heavy	
13	Neutralise enemy forces on Webber Island	1. Amphibious forces landed on Webber Island (NP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	48 Hours	1		4 of Battalion	1 of Battalion	3 of Battalion	90%
14	Establish ISR in the vicinity of Webber Island with MPA	1. Forward mounting base maintained (SP)	1. ISR established in the vicinity of Webber Island (SE)		As required	As required		8 of Maritime Patrol Aircraft		1 of Maritime Patrol Aircraft	95%
15	Establish ISR in the vicinity of Webber Island with Strike and Reconnaissance Aircraft	1. Forward mounting base maintained (SP)	1. ISR established in the vicinity of Webber Island (SE)		As required	As required		8 of Strike and Reconnaissance Aircraft		2 of Strike and Reconnaissance Aircraft	85%
16	Conduct airborne insertion	1. ISR PODs conducted (NP) 2. PODs for ABN insertion secured (VP) 3. Local air control established (SP) 4. Enemy C2 on Webber Island degraded (SP)	1. POE on Webber Island secured (PE)	ASAP	6 Hours	1		20 of Helicopter 1 of Airborne Battalion	1 of Helicopter	1 of Airborne Battalion 4 of Helicopter	90%
17	Conduct ISR PODs for ABN insertion	1. Special forces inserted into Webber Island (NP)	1. ISR PODs conducted (PE)	D + 96 Hours	56 Hours	1		1 of SF RECON Unit		1 of SF RECON Unit	96%
18	Secure PODs for ABN insertion	1. Special forces inserted into Webber Island (NP)	1. PODs for ABN insertion secured (PE)	D + 48 Hours	24 Hours	1		2 of SF Strike Unit		1 of SF Strike Unit	98%
19	Conduct naval gunfire support	1. Local air control established (SP)	1. Naval gunfire support provided (SE)		As required	As required		2 of Frigate		1 of Frigate	99%
20	Conduct ISR on enemy C2 nodes	1. Special forces inserted into Webber Island (NP)	1. ISR enemy C2 nodes conducted (PE)	D + 30 Hours	6 Hours	1		2 of SF RECON Unit		1 of SF RECON Unit	95%
21	Conduct BDA with SF	1. 1. Special forces inserted into Webber Island (NP)	1. Battle damage assessment provided (SE)		As required	As required		4 of SF RECON Unit		1 of SF RECON Unit	70%
22	Conduct BDA with Satellite	1. Liaison with coalition satellite ISR established (NP, initially valid)	1. Battle damage assessment provided (SE)		As required	As required		1 of Satellite Surveillance Unit			95%
23	Strike enemy C2 nodes mobility assets communications and logistics	1. ISR enemy C2 nodes conducted (VP) 2. Enemy air defence suppressed (SP) 3. Battle damage assessment provided (SP)	1. Enemy C2 on Webber Island degraded (PE)	D + 72 Hours	12 Hours	1		16 of Strike and Reconnaissance Aircraft	1 of Strike and Reconnaissance Aircraft	4 of Strike and Reconnaissance Aircraft	90%
24	Establish local sea control IVO Webber Island	1. ISR established in the vicinity of Webber Island (SP) 2. Local air control established (SP)	1. Sea control established in the vicinity of Webber Island (SE)		As required	As required		6 of Frigate 1 of Submarine		2 of Frigate	90%
25	Strike enemy airlift assets	1. Battle damage assessment provided (SP) 2. Air superiority in the vicinity of Webber Island established (SP) 3. Forward mounting base maintained (SP) 4. ISR established in the vicinity of	1. Enemy airlift assets destroyed (PE)	ASAP	25 Hours	1		6 of Strike and Reconnaissance Aircraft		2 of Strike and Reconnaissance Aircraft	88%

UNCLASSIFIED

		Webber Island (SP)									
26	Conduct IO campaign on Webber Island		1. Enemy popular support on WI degraded (SE)	ASAP	288 Hours	1		2 of IO Squadron			80%
27	Strike enemy airforces	1. Battle damage assessment provided (SP) 2. Air superiority in the vicinity of Webber Island established (SP) 3. Forward mounting base maintained (SP) 4. ISR established in the vicinity of Webber Island (SP)	1. Enemy airforces destroyed (PE)	ASAP	73 Hours	1		6 of Strike and Reconnaissance Aircraft	1 of Strike and Reconnaissance Aircraft	2 of Strike and Reconnaissance Aircraft	85%
28	Strike enemy sealift assets	1. Sea control established in the vicinity of Webber Island (SP) 2. Battle damage assessment provided (SP) 3. Air superiority in the vicinity of Webber Island established (SP) 4. Forward mounting base maintained (SP) 5. ISR established in the vicinity of Webber Island (SP)	1. Enemy sealift capability neutralised	ASAP	97 Hours	1		6 of Strike and Reconnaissance Aircraft		2 of Strike and Reconnaissance Aircraft	85%
29	Degrade enemy C2 leadership		1. Enemy C2 leadership degraded (PE)	ASAP	300 Hours	1		4 of IO Squadron			80%
30	Conduct mine counter measure operation		1. Sea mines cleared (PE)	ASAP	48 Hours	1		3 of Mine Counter Measure Ship		1 of Mine Counter Measure Ship	80%
31	Protect SLOC	1. Local air control established (SP)	1. Sea control along our own SLOCs established (SE)		As required	As required		2 of Frigate		1 of Frigate	98%
32	Protect ALOC	1. Local air control established (SP)	1. Air control along our own LOCs established (SE)		As required	As required		4 of Fighter Aircraft		1 of Fighter Aircraft	90%
33	Conduct insurgency operation	1. Special forces inserted into Webber Island (NP)	1. Enemy force sustainment degraded (PE) 2. Enemy popular support on WI degraded (PE)	D + 48 Hours	120 Hours	1		4 of SF Strike Unit		1 of SF Strike Unit	65%
34	Strike enemy airborne and amphibious forces	1. Sea control established in the vicinity of Webber Island (SE) 2. ISR established in the vicinity of Webber Island (SE) 3. Battle damage assessment provided (SE) 4. Air superiority in the vicinity of Webber Island established (SE) 5. Forward mounting base maintained (SE)	1. Enemy airborne and amphibious forces neutralised (PE)	ASAP	97 Hours	1		6 of Strike and Reconnaissance Aircraft	1 of Strike and Reconnaissance Aircraft	3 of Strike and Reconnaissance Aircraft	85%
35	Coerce enemy to withdrawal after neutralising ALOC	1. Enemy airlift assets destroyed (NP) 2. Sea control established in the vicinity of Webber Island (SP) 3. Air superiority established in the vicinity of Webber Island (SP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					60%
36	Coerce enemy to withdrawal after neutralising airforces	1. Enemy airforces destroyed (NP) 2. Sea control established in the vicinity of Webber Island (SP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					70%

UNCLASSIFIED

		3. Air superiority established in the vicinity of Webber Island (SP)									
37	Coerce enemy to withdrawal after neutralising airborne and amphibious forces	1. Enemy airborne and amphibious forces neutralised (NP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					60%
38	Coerce enemy to withdrawal after neutralising airborne and amphibious forces	1. Enemy sealift capability neutralised (NP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					60%
39	Coerce enemy to withdrawal after neutralising sealift assets and degrading leadership	1. Enemy sealift capability neutralised (NP) 2. Enemy C2 leadership degraded (NP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					60%
40	Coerce enemy to withdrawal after neutralising airlift and sealift assets	1. Enemy sealift capability neutralised (NP) 2. Enemy airlift assets destroyed (NP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					75%
41	Coerce enemy to withdrawal after neutralising airforces and degrading popular support	1. Enemy airforces destroyed (NP) 2. Enemy popular support on WI degraded (NP) 3. Sea control established in the vicinity of Webber Island (SP) 4. Air superiority established in the vicinity of Webber Island (SP)	1. Enemy forces on Webber Island evicted (PE)	ASAP	24 Hours	1					