

The PRECiS Environment Pacifica Limited Power Projection---Force Movements

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Transportation planning/scheduling problems address issues involved in satisfying the constraints associated with moving entities such as aircraft, ships, and personnel to seaports, airports, etc. This scenario was developed to emulate the movement requirements used during the Planning Initiative IFD-2. The movements described in Table A1 calculate force movements which meet a particular set of requirements using a set of allocated resources.

Currently, this scenario is set up as a "scheduling problem" with the input provided being the high-level movement requirements, schedule, and list of resources and resource capabilities.

In the future, a section will be added to this appendix that describes the initial situation and goals that would allow a planning system to construct an alternative high-level Course of Action (COA).

1 Example Movement Requirements

Table 1.1, next page, contains a set of "movements" to describe one COA to solve the Pacifica scenario. This table shows the requirements of a set of force movements to accomplish a "limited power projection" show-of-force mission relating to the island of Pacifica. For each bold outlined section in the table, the first line describes the overall requirements of an individual unit, for instance, the 87th-F16 squadron originates from McCord Air Force Base (PSBD), will be ready to load on crisis date 0, is destined for the airport in Calypso, Pacifica, and must arrive there no later than C+34. The remaining lines in that section describe the component moves necessary to achieve this unit move requirement. The sea transport components will leave from Tacoma, Washington, travel to the seaport at City-K, Country-X and then on to Calypso. The air transport components will leave from McCord AFB, travel to the airport at City-K, Country-X and then on to Calypso airport.

Figure 1.1 describes these movements graphically.

| Unit ID | Unit Type | Origin | RLD | Destination | RDD | Mode | POE | POD | LAD |
|-----------|-----------|--------|-----|-------------|-----|------|------|------|-----|
| BB62-SAG | SAG | UTBS | 0 | NCLS | 21 | | | | |
| BB62-SAG | | UTBS | | NCLS | 21 | SEA | UTAC | NCLS | 21 |
| CV66-ACS | ACS | SYZP | 0 | NCLS | 15 | | | | |
| CV66-ACS | | SYZP | | NCLS | 15 | SEA | SYZZ | NCLS | 15 |
| 87th-F16 | 891 | PSBD | 0 | CPSA | 34 | | | | |
| 87th-F16 | | PSBD | | UCKA | 30 | AIR | PSBD | UCKA | 29 |
| 87th-F16 | | PSBD | | UCKS | 33 | SEA | WPVT | UCKS | 32 |
| 87th-F16 | | UCKS | | CPSA | 34 | SEA | UCKS | CLPS | 33 |
| 87th-F16 | | UCKA | | CPSA | 34 | AIR | UCKA | CPSA | 34 |
| 86th-F16 | 891 | PSBD | 0 | CPSA | 25 | | | | |
| 86th-F16 | | PSBD | | UCKA | 21 | AIR | PSBD | UCKA | 20 |
| 86th-F16 | | PSBD | | UCKS | 25 | SEA | WPVT | UCKS | 24 |
| 86th-F16 | | UCKS | | CPSA | 25 | SEA | UCKS | CLPS | 24 |
| 86th-F16 | | UCKA | | CPSA | 25 | AIR | UCKA | CPSA | 25 |
| 27th-F15 | 89B | PSBD | 0 | CPSA | 34 | | | | |
| 27th-F15 | | PSBD | | UCKS | 30 | SEA | WPVT | UCKS | 29 |
| 27th-F15 | | PSBD | | UCKA | 30 | AIR | PSBD | UCKA | 29 |
| 27th-F15 | | UCKS | | CPSA | 34 | SEA | UCKS | CLPS | 33 |
| 27th-F15 | | UCKA | | CPSA | 34 | AIR | UCKA | CPSA | 34 |
| 83rd-LIB | LIB | JKFQ | 0 | DLTA | 34 | | | | |
| 83rd-LIB | | JKFQ | | NCLA | 29 | AIR | PSBD | NCLA | 29 |
| 83rd-LIB | | JKFQ | | NCLS | 33 | SEA | WPVT | NCLS | 32 |
| 83rd-LIB | | JKFQ | | DLTS | 34 | SEA | WPVT | DLTS | 33 |
| 83rd-LIB | | NCLS | | DLTS | 34 | SEA | NCLS | DLTS | 33 |
| 83rd-LIB | | NCLA | | DLTA | 34 | AIR | NCLA | DLTA | 33 |
| 57th-IMF | IMF | JKFQ | 0 | DLTA | 34 | | | | |
| 57th-IMF | | JKFQ | | NCLA | 29 | AIR | PSBD | NCLA | 29 |
| 57th-IMF | | JKFQ | | DLTA | 33 | SEA | WPVT | DLTS | 32 |
| 57th-IMF | | JKFQ | | NCLS | 34 | SEA | WPVT | NCLS | 33 |
| 57th-IMF | | NCLS | | DLTA | 34 | SEA | NCLS | DLTS | 33 |
| 57th-IMF | | NCLA | | DLTA | 34 | AIR | NCLA | DLTA | 33 |
| 199th-IMB | IMB | JKFQ | 14 | DLTA | 34 | | | | |
| 199th-IMB | | JKFQ | | DLTA | 34 | SEA | WPVT | DLTS | 33 |
| 199th-IMB | | JKFQ | | NCLS | 32 | SEA | WPVT | NCLS | 31 |
| 199th-IMB | | JKFQ | | NCLA | 29 | AIR | PSBD | NCLA | 29 |
| 199th-IMB | | NCLS | | DLTA | 34 | SEA | NCLS | DLTS | 32 |
| 199th-IMB | | NCLA | | DLTA | 34 | AIR | NCLA | DLTA | 33 |
| 1st-MEB-A | 701 | ETZB | 10 | NCLS | 21 | | | | |
| 1st-MEB-A | | ETZB | | NCLS | 21 | SEA | UTAC | NCLS | 21 |
| 3rd-ACR | ACR | UTLR | 10 | DLTA | 26 | | | | |
| 3rd-ACR | | UTLR | | DLTS | 26 | SEA | UTLS | DLTS | 25 |
| 3rd-ACR | | UTLR | | DLTS | 26 | SEA | UTLS | DLTS | 25 |
| 3rd-ACR | | UTLR | | 9CNA | 21 | AIR | UTKY | 9CNA | 21 |
| 3rd-ACR | | UTLR | | DLTS | 26 | SEA | UTLS | DLTS | 24 |
| 3rd-ACR | | 9CNA | | DLTA | 26 | AIR | 9CNA | DLTA | 25 |

Table 1.1: Movement Records

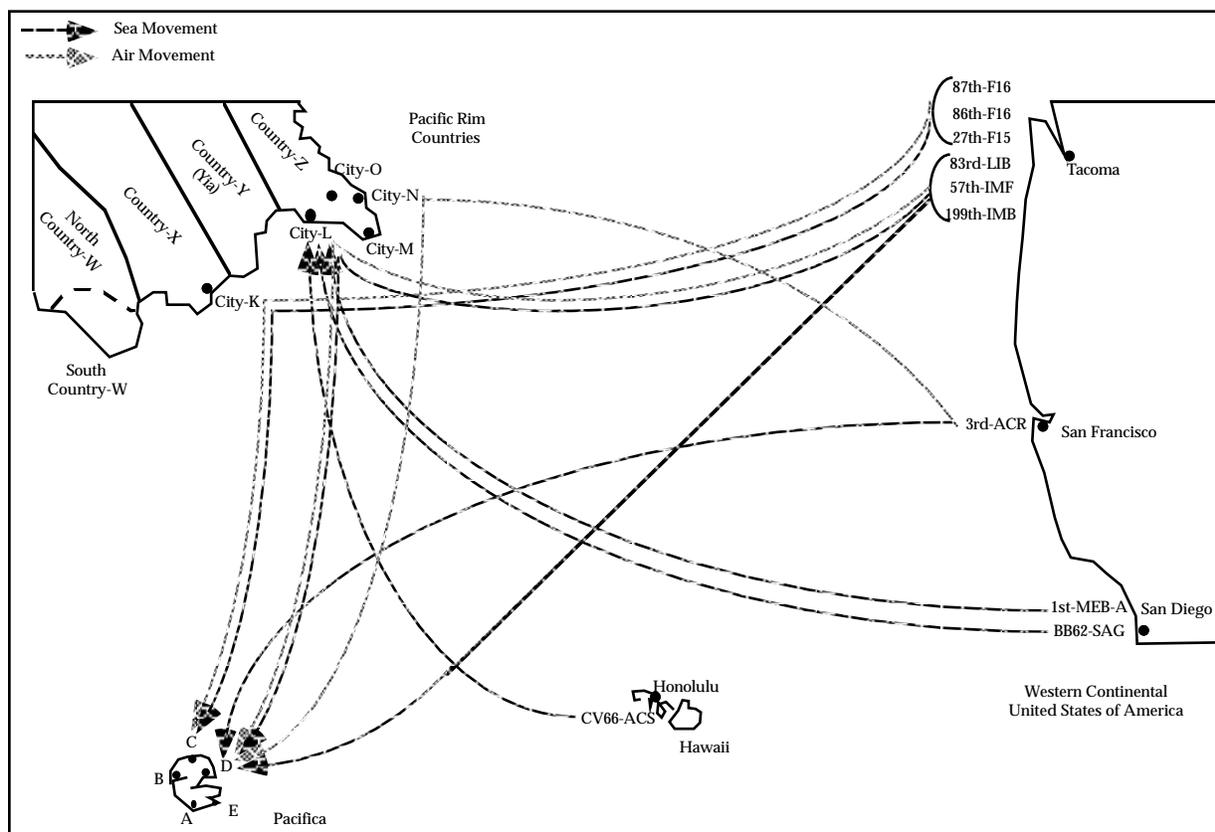


Figure 1.1: Graphic Force Movement

2 Allocated Resources

The following are the resource allocations for the Pacifica Limited Power Projection Scenario.

2.1 Airlift

All aircraft are available as of day 0 at US locations. Most aircraft will be available at PSBD (McCord AFB, WA). However, 5 C-5 aircraft and 10 C-141 aircraft will be available at UTKY (San Francisco, CA). All airlift aircraft are allocated throughout the entire operation.

For political reasons, we are not allowed to land either C-5 or C-141 aircraft in Pacifica. Only C-130 airlifts will be allowed. The B747 aircraft are not allowed due to eminent danger to the aircraft.

| Aircraft Type | No. Available |
|---------------|---------------|
| C-5 | 56 |
| C-141 | 185 |
| C-130 | 128 |

Table 2.1: Aircraft Availability

2.2 Sealift

C+X indicates the day that the ships become available. Once a ship is available, it continues to be available throughout the entire operation. Assume (i) all Breakbulk become available at WPVT (Tacoma, WA), (ii) all Container ships become available at UTAC (San Diego, CA), (iii) all LASH become available at UTAC (San Diego, CA), (iv) all the RORO become available at WPVT (Tacoma, WA.), and (v) all the Sea Barge become available at UTLS (San Francisco, CA).

| Sealift: | C+0 | C+2 | C+4 | C+5 | C+10 |
|-----------|-----|-----|-----|-----|------|
| Breakbulk | 8 | 3 | 0 | 7 | 2 |
| Container | 0 | 2 | 0 | 1 | 0 |
| LASH | 0 | 3 | 3 | 0 | 0 |
| RORO | 1 | 2 | 3 | 0 | 0 |
| Sea Barge | 0 | 1 | 1 | 0 | 0 |

Table 2.2: Ship Availability