



NOAA-15 AVHRR 1 KM HRPT
27 OCT 1998 13:00 GMT
HURRICANE MITCH
WINDS: 180 MPH
PRESSURE: 917 MB
CATEGORY FIVE

D30003

COMMODITIES PLANNING

20N

MEXICO (YUCATAN)

CUBA

JAMAICA

15N

90W

80W

credit: NOAA

Key Lessons Learned

- **Commodities will be pushed forward before logistical structures are in place.**
- **The critical planning factor for ordering commodities is “distribution” capability, not people without power.**
- **Distribution planning must be a priority with local governments for the commodities mission to be successful.**
- **All levels of government must understand the distribution point concept.**

Key Planning Factors

- Ice – 1 truck load (40,000 lbs, 8 lbs/per) serves 5000 people
- Water – 1 truck load (18,000 liters, 3+liters/per) serves 5000 people
- MREs – 1 truck load (21,744 ea., 2 ea/per) serves 10,000 people
- Tarps – 1 truck load (4,400 ea.) serves 4000 families with roof damage
- 1 car represents 1 family or 3 people
- Each car is provided the following:
 - **2 or 3 bags if ice**
 - **1 case of water (9-12 liters)**
 - **6 MREs**
 - **1 tarp, if they state they have roof damage**

Key Planning Factors, Cont'd

- A distribution point (DP) with one supply lane can serve 1,660 cars or 5000 people in one day, (Type III Distribution Point).
- A Type II DP has two lanes
- A Type I DP has four lanes

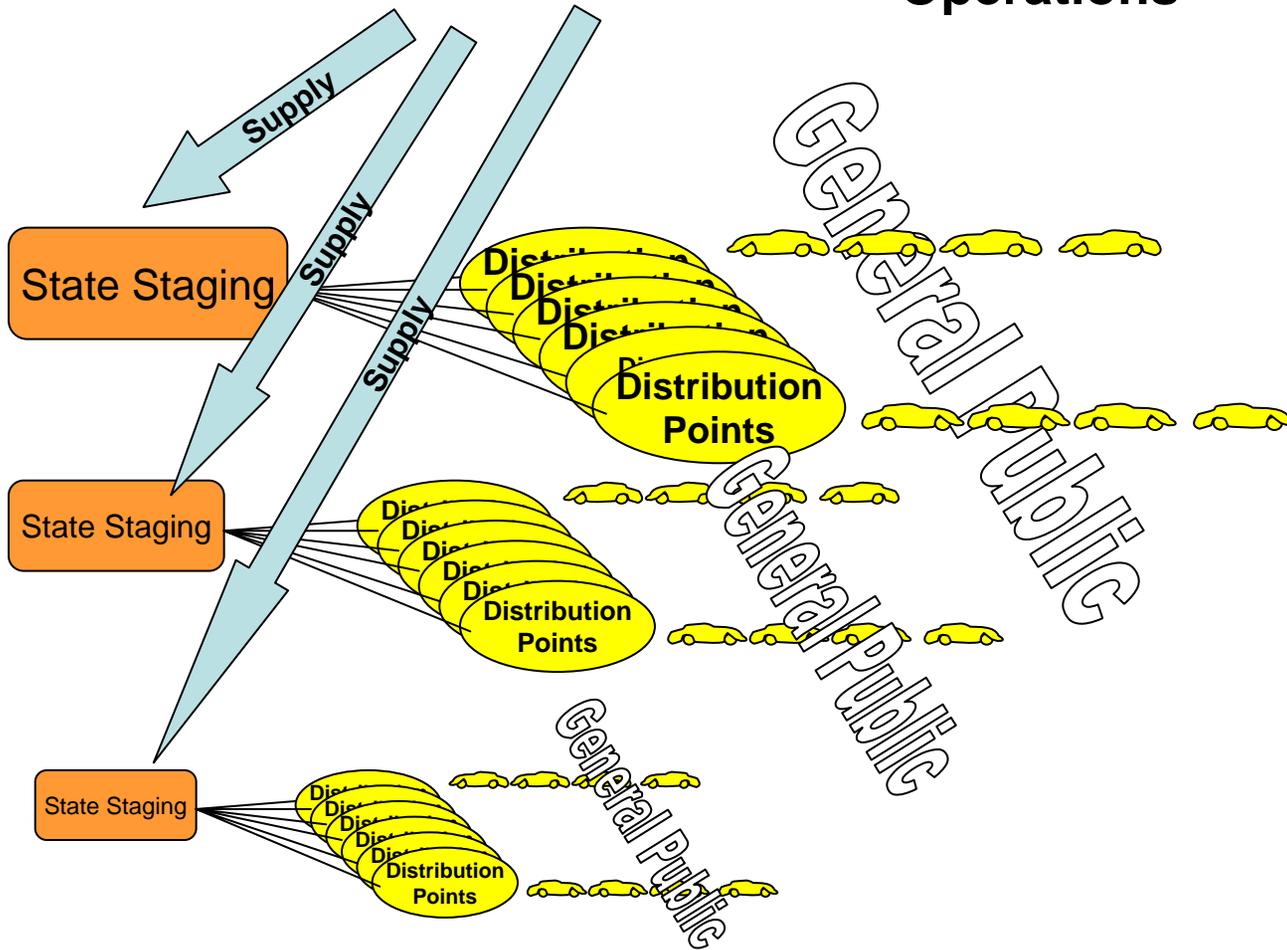
1 Truck Load Ice
1 Truck Load Water
½ Truck Load of MREs
1 Truck Load of Tarps

} Serves 5000 People = One Type III DP

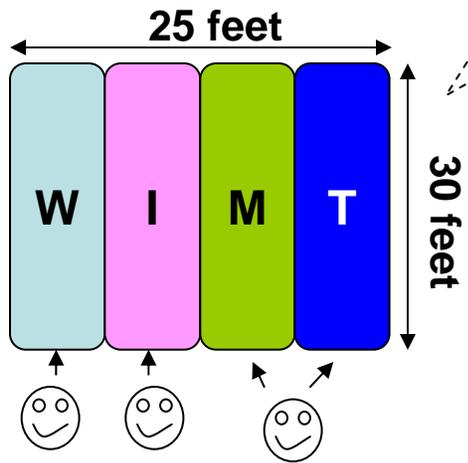
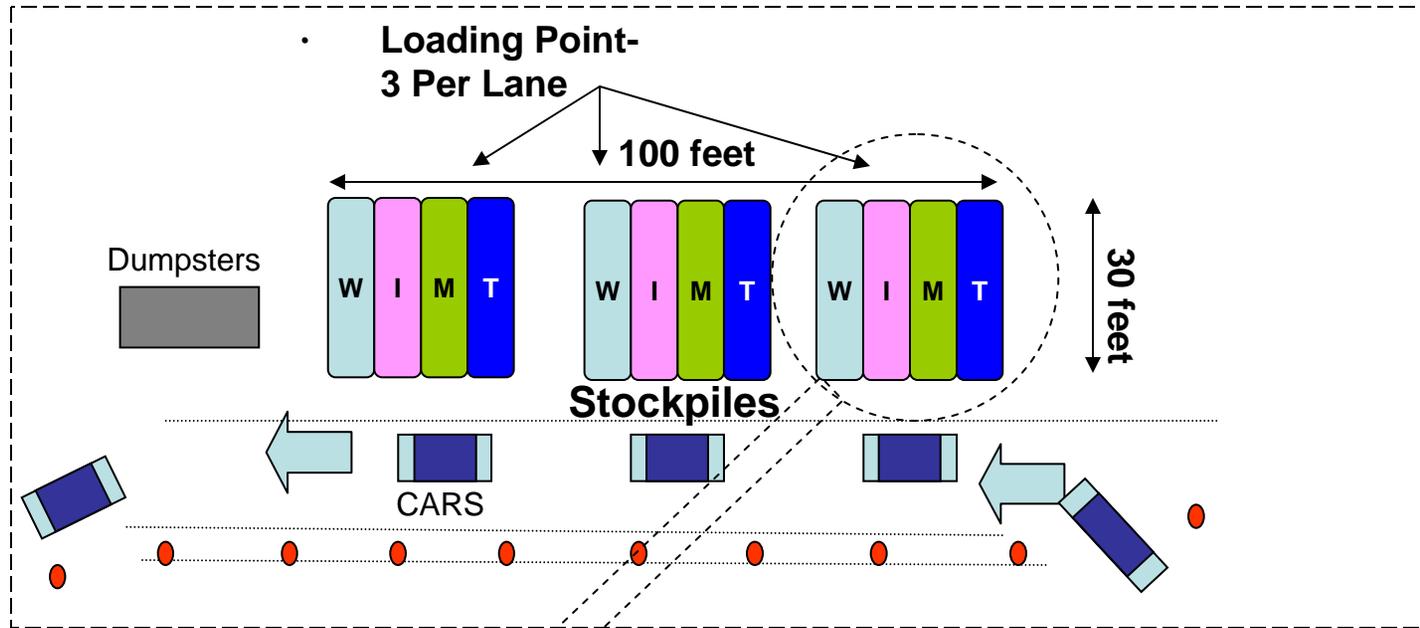
IF 50 TRUCK LOADS OF ICE AND WATER ARE ORDERED PER DAY
HOW MANY TYPE III DP'S ARE NEEDED?

Federal Staging

Concept of Operations



LOADING POINT



3 Persons Per Loading Point
- 1 for Water
- 1 for Ice
- 1 for MRE's and Tarps

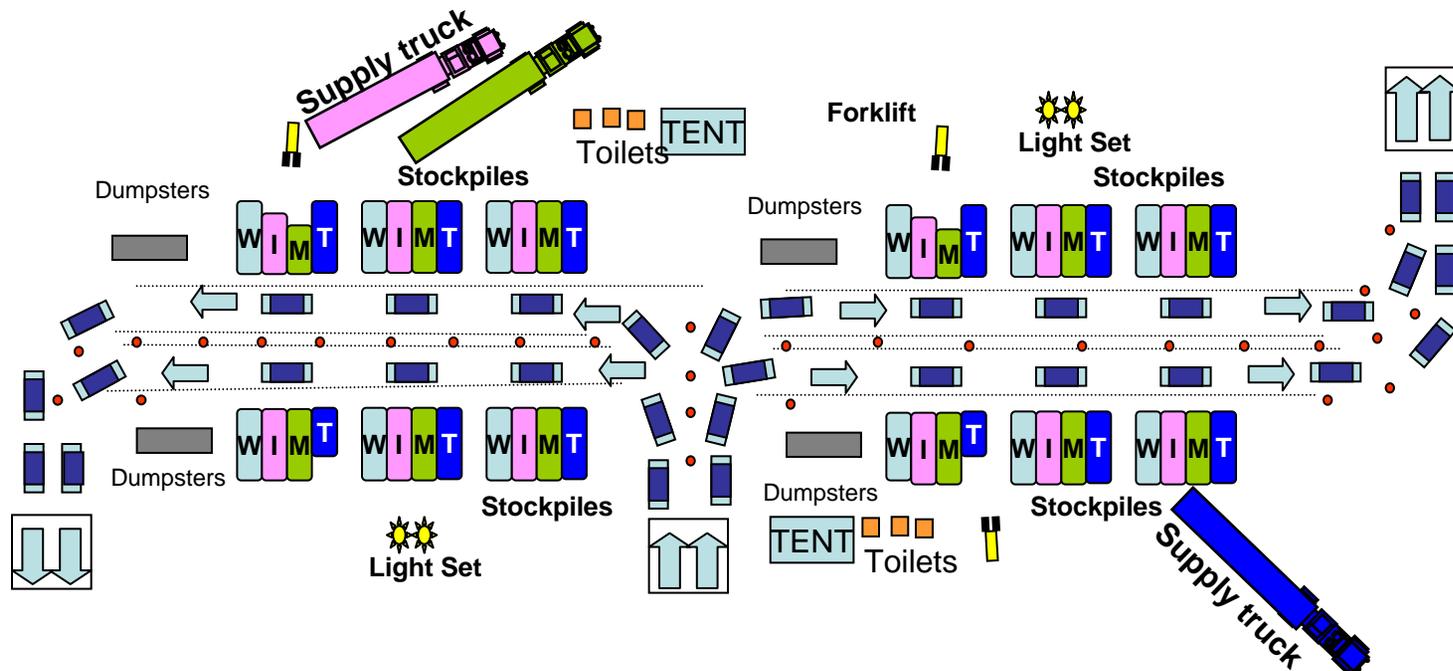
Water
Ice
MRE
Tarp

Figure 2

TYPE I - DISTRIBUTION POINT

Serves 20,000 persons per day

12 Loading Points - 560 vehicles per hour



Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 MRE's.

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.

Maximum Loads per Day – Type I

Water	4
Ice	4
MRE	2
Tarp	2

Figure 3

Type I Distribution Point Resources Required

Type I Distribution Point						
Manpower				Equipment		
Type		Day	Night	Type	Number	
Local Responsibility	Manager		1	0	Forklifts	3
	Team Leader		2	1	Pallet Jacks	3
	Forklift Operator		2	3	Power Light Sets	2
	Labor		57	4	Toilets	6
	Loading Point	36			Tents	2
	Back-up Loading PT	18			Dumpsters	4
	Pallet Jacks Labor	3			Traffic Cones	30
	Totals		70	9	Two-way radios	4
Others	Law Enforcement		4	1		
	Community Rel.		4	0		
Grand Total		78	10			

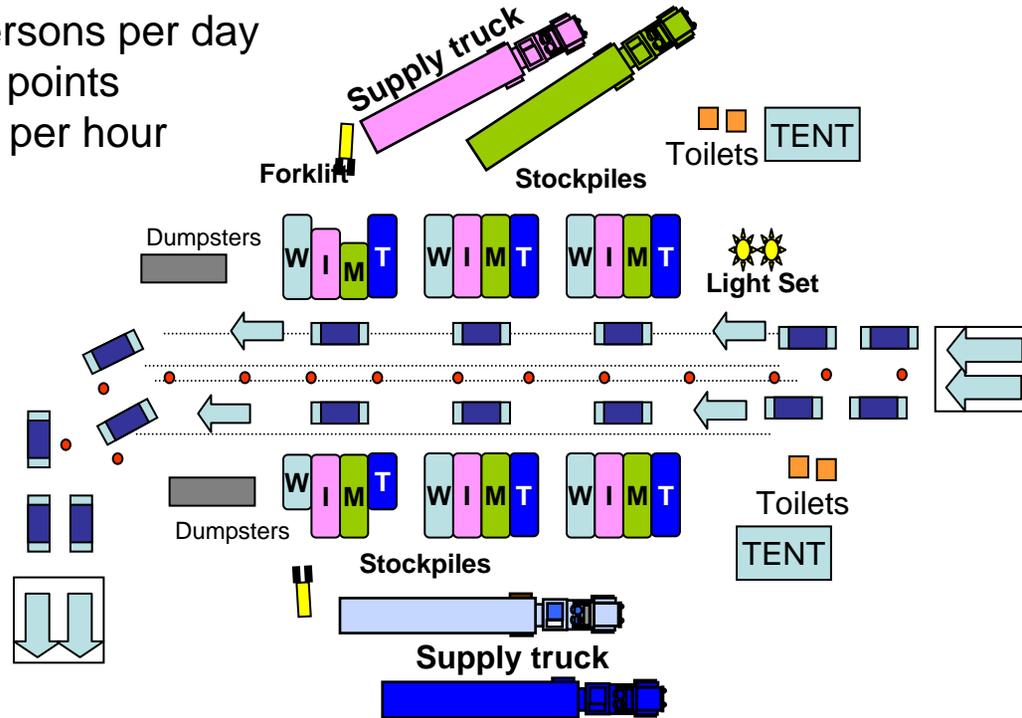
Figure 4

TYPE II - DISTRIBUTION POINT

Serves 10,000 persons per day

6 Loading points

280 vehicles per hour



Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 MRE's

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.

Maximum Loads per Day – Type II

Water	2
Ice	2
MRE	1
Tarp	1

Figure 5

Type II Distribution Point Resources Required

Type II Distribution Point						
Manpower				Equipment		
Type		Day	Night	Type	Number	
Local Responsibility	Team Leader		1	0	Forklifts	2
	Forklift Operator		1	2	Pallet Jacks	2
	Labor		28	3	Power Light Sets	1
	Loading PT	18			Toilets	4
	Back-up Loading PT	9			Tents	2
	Pallet Jacks Labor	1			Dumpsters	2
	Totals		30	5	Traffic Cones	15
Others	Law Enforcement		2	1	Two-way radios	0
	Community Rel.		2	0		
Grand Total		34	6			



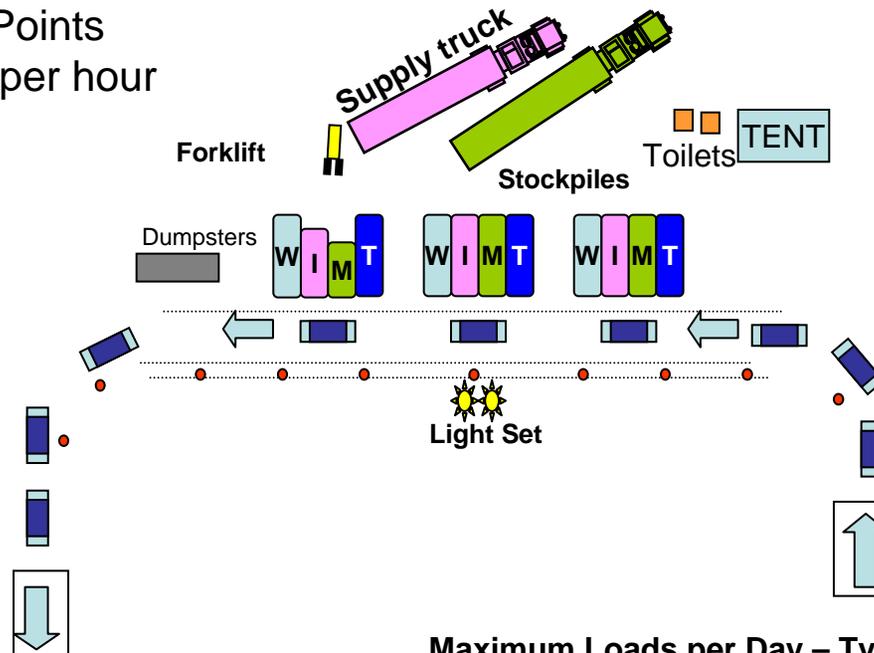
Figure 6

TYPE III - DISTRIBUTION POINT

Serves 5,000 persons per day

3 loading Points

140 vehicles per hour



Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 MRE's

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.

Maximum Loads per Day – Type III

Water	1
Ice	1
MRE	1/2
Tarp	1/2

Figure 7

Type III Distribution Point Resources Required

Type III Distribution Point					
Manpower				Equipment	
Type		Day	Night	Type	Number
Local Responsibility	Team Leader	1	0	Forklifts	1
	Forklift Operator	1	1	Pallet Jacks	1
	Labor	14	2	Power Light Sets	1
	Loading PT	9		Toilets	2
	Back-up Loading PT	4		Tents	1
	Pallet Jacks Labor	1		Dumpsters	1
	Totals		16	3	Traffic Cones
Others	Law Enforcement	2	1	Two-way radios	0
	Community Rel.	1	0		
Grand Total		19	4		



Figure 8

Pre-Planning Model

Enter # of people without power (Equals number of customers x3)	400,000
# of people requiring commodities	160,000
# of Type III Dist. Points Req'd	32

	Type III Dist. Point			
Manpower	Day	Night	Equipment	
Local Req.			Forklifts	32
Forklift Oper	32	32	Pallet Jacks	32
Laborers	480	64	Traff Cones	320
Total	512	96	Light Sets	32
Law Enf	64	32	Toilets	64
Comun Rel	32	0	Tents	32
Grand Total	608	128	Dumpsters	32

Tarps	
Loads	Each
36	160,000

Number of truck loads required per day for 24 days	Days	Water		ICE		MREs	
		Loads	K Gal	Loads	K Pounds	Loads	Each
	1	32	152.0	32	1280	16	347,904
	2	29	139.0	29	1170	15	326,160
	3	27	125.9	27	1061	13	288,263
72 Hour Planning Total >		88		88		44	
	4	24	112.9	24	951	12	258,443
	5	21	99.9	21	841	11	228,623
	6	18	86.9	18	731	9.1	198,802
	7	16	73.8	16	622	7.8	168,982
60% Power back on-line >	8	13	60.8	13	512	6.4	139,162
	9	12	55.1	12	464	5.8	126,115
	10	10	49.4	10	416	5.2	113,069
	11	9.2	43.7	9.2	368	-	-
	12	8.0	38.0	8.0	320	-	-
	13	6.8	32.3	6.8	272	-	-
	14	5.6	26.6	5.6	224	-	-
90% Power back on-line >	16	3.2	15.2	3.2	128	-	-
	17	2.8	13.3	2.8	112	-	-
	18	2.4	11.4	2.4	96	-	-
	19	2.0	9.5	2.0	80	-	-
	20	1.6	7.6	1.6	64	-	-
	21	1.2	5.7	1.2	48	-	-
	22	0.8	3.8	0.8	32	-	-
	23	0.4	1.9	0.4	16	-	-
	24	0.0	0.0	0.0	0	-	-
Total Loads		249.6	1185.6	249.6	9984	101	2,195,523

Enter Number of Type III Dist. Points to be used	25								
- 1 Type II = 2 Type III									
- 1 Type I = 4 Type III									
Post-Ordering Model									
Number of truck loads required per day for 24 days	Days	Water		ICE		MREs		Tarps	
		Loads	K Gal	Loads	K #	Loads	Each	Loads	Each
	1	25	118.8	25	1000	13	271,800		
	2	23	108.6	23	914	11	248,503		
	3	21	98.4	21	829	10	225,206		
Initial Order (72 Hour Planning Total) >		69		69		34		28	125,000
	4	19	88.2	19	743	9	201,909		
	5	16	78.0	16	657	8	178,611		
	6	14	67.9	14	571	7.1	155,314		
Next Order (next 72 Hour Planning Total) >		49		49		25			
	7	12	57.7	12	486	6.1	132,017		
60% Power back on-line >	8	10	47.5	10	400	5.0	108,720		
	9	9	43.0	9	363	4.5	98,528		
	10	8	38.6	8	325	4.1	88,335		
	11	7.2	34.1	7.2	288	-	-		
	12	6.3	29.7	6.3	250	-	-		
	13	5.3	25.2	5.3	213	-	-		
	14	4.4	20.8	4.4	175	-	-		
	15	3.4	16.3	3.4	138	-	-		
90% Power back on-line >	16	2.5	11.9	2.5	100	-	-		
	17	2.2	10.4	2.2	88	-	-		
	18	1.9	8.9	1.9	75	-	-		
	19	1.6	7.4	1.6	63	-	-		
	20	1.3	5.9	1.3	50	-	-		
	21	0.9	4.5	0.9	38	-	-		
	22	0.6	3.0	0.6	25	-	-		
	23	0.3	1.5	0.3	13	-	-		
	24	0.0	0.0	0.0	0	-	-		
Total Loads		195.0	926.3	195.0	7800	79	1,708,943	28	125,000

QUESTIONS