

TOTAL 5 YEAR COST PER INSTITUTION

CENTRAL SITE INSTALLATION AND OPERATING COSTS ALLOTTED BY 7% SHARES, LOCAL SITE COSTS ARE INSTITUTION-SPECIFIC	G E A C		NOTIS (OPTION 2)	
	5-YEAR	PER YEAR	5-YEAR	PER YEAR
WSUL (35%)	2 919 419	583 884	2 593 757	518 751
DPL (28%)	3 110 586	622 117	2 998 415	599 683
UD (21%)	1 810 054	362 011	1 597 258	319 452
WCCC (7%)	733 187	146 637	672 748	134 550
BOTSFORD (1%)	98 434	19 687	80 585	16 117
CHILDRENS (1%)	87 005	17 401	80 555	16 111
HARPER (1%)	107 267	21 453	102 128	20 426
HENRY FORD (3%)	254 949	50 990	241 329	48 266
SINAI (1%)	89 802	17 960	81 058	16 212
WILLIAM BEAUMONT (2%)	163 657	32 731	148 214	29 643
	<u>9 366 360</u>		<u>8 590 727</u>	

NOIIS (Option 2) Annual Operating Costs

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL	
	WSUL	WSUL	DALNET	DALNET	DALNET	DALNET	
CENTRAL SITE							
Hardware maintenance (est. 10% incr./yr.)	\$27,451	\$35,261	\$51,555	\$53,467	\$58,813	\$71,570	\$251,717
Software maintenance (est. 10% incr./yr.)	\$5,110	\$5,521	-	\$6,633	\$6,696	\$7,366	\$30,926
Staff (est. 8% incr./yr.)	\$20,927	\$22,455	\$45,080	\$96,938	\$428,693	\$467,988	\$862,131
Supplies & equipment for the office area	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Overhead, eg. heat, elec, bldg maint.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Subtotal	\$283,538	\$312,837	\$150,235	\$511,038	\$554,202	\$607,924	\$2,419,774
REMOTE SITES							
Hardware maintenance (est. 10% incr./yr.)	\$25,510	\$51,877	\$72,266	\$224,571	\$247,028	\$280,731	\$916,983
Line charges (est. 10% incr./yr.)	\$5,880	\$10,128	\$35,100	\$59,567	\$65,524	\$73,540	\$249,739
Subtotal	\$31,390	\$62,005	\$127,366	\$284,138	\$312,552	\$354,271	\$1,166,722
TOTAL	\$314,928	\$374,842	\$277,601	\$795,176	\$866,754	\$962,195	\$3,586,496

2/6/85

GEAC ANNUAL OPERATING COSTS

	1	2	3	4	5	6	7
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL	
	WSUL	WSUL	DALNET	DALNET	DALNET	DALNET	
<u>CENTRAL SITE</u>							
HARDWARE MAINTENANCE (EST. 10% INCREASE/YEAR)	71349	93039	115412	294072	323479	355827	1253177
SOFTWARE MAINTENANCE (EST. 10% INCREASE/YEAR)	13400	17140		18854	20739	22813	82946
STAFF (EST. 8% INCREASE/YEAR)	191937	207292	79560	309800	334584	361351	1489524
SUPPLIES + OFFICE EQUIPMENT	NA	NA	NA	NA	NA	NA	
OVER HEAD, e.g. ELEC, BLDG.	NA	NA	NA	NA	NA	NA	
SUBTOTAL	276685	317471	194972	622726	678802	739991	2830647
<u>REMOTE SITES</u>							
HARDWARE MAINTENANCE (EST. 10% INCREASE/YEAR)	20976	45226	89880	168045	184450	202895	711472
LINE CHARGES (EST. 10% INCREASE/YEAR)	2952	5443	36348	59993	60492	67297	227525
SUBTOTAL	23928	50669	126228	228038	244942	270192	938997
TOTAL	300613	368140	321200	850764	923744	1010183	3769644

TOTAL 5-YEAR COST COMPARISON

	GEAC	NOTIS	
		OPTION 1	OPTION 2
A. CENTRAL SITE INSTALLATION	\$3,454,928	\$2,958,427	\$2,455,799
B. OPERATING COSTS*	\$3,769,644	N.A.	\$5,586,496
C. LOCAL SITE COSTS			
WSUL	390,819	478,954	478,954
DPL	1,087,706	1,306,622	1,306,622
U of D	292,894	322,376	322,376
WCCC	227,467	249,787	249,787
Botsford	18,188	19,962	19,962
Children's	14,759	19,962	19,962
Harper	35,021	41,705	41,705
Henry Ford	38,212	60,060	60,060
Sinai	17,556	20,635	20,635
William Beaumont	19,166	22,368	22,368
Subtotal	\$2,141,783	\$2,548,431	\$2,548,431
A+C TOTAL	\$5,596,716	\$5,506,858	\$5,004,230
GRAND TOTAL (A+B+C)	\$9,366,360	N.A.	\$8,590,726
PER YEAR	\$1,873,272	N.A.	\$1,718,145
* itemized separately 2/6/85			

TOTAL INITIAL INSTALLATION
COST COMPARISON
(WSUL Phase One and DALNET Phase One)

	10	11	12	13	14	15	16	17	18
		%	Central Site	GEAC Local Site	TOTAL	NOTIS (Option 2) Central Site	Local Site	TOTAL	
WSUL		35%	\$942,775	\$201,410	\$1,144,185	\$673,655	\$253,533	\$927,188	
DPL		28%	754,220	622,954	1,377,174	538,924	672,690	1,211,614	
U of D		21%	565,665	191,257	756,922	404,193	211,227	615,420	
WCCC		7%	188,555	170,850	359,405	134,731	196,812	331,543	
Botsford		1%	26,936	18,188	45,124	19,247	19,962	39,209	
Children's		1%	26,936	14,759	41,695	19,247	19,962	39,209	
Harper		1%	26,936	26,047	52,983	19,247	24,845	44,092	
H. Ford		3%	80,809	38,212	119,021	57,742	60,060	117,802	
Sinai		1%	26,936	17,556	44,492	19,247	20,635	39,882	
Wm. Bmt		2%	53,874	19,166	73,040	38,495	20,585	59,080	
		100%	\$2,693,642	\$1,320,399	\$4,014,041	\$1,924,729	\$1,500,311	\$3,425,039	

2/6/85

110
272 2,693,642
273
316

Proportionate Share*

Library	No. of Titles	%	No. of Terminals	%	Aver. %	No. of Circs	%	Aver. %
WSUL	270,080	45%	59	24%	35%	279,986	13%	27%
DPL	133,000	22%	83	34%	28%	1,442,500	69%	42%
U of D	134,000	22%	50	21%	21%	31,594	2%	15%
WCCC	24,000	4%	26	11%	7%	128,000	6%	7%
Botsford	1,400	1%	3	1%	1%	27,808	1%	1%
Children's	1,833	1%	3	1%	1%	5,019	1%	1%
Harper	6,773	1%	3	1%	1%	76,323	4%	2%
Henry Ford	10,456	2%	8	4%	3%	13,000	1%	2%
Sinai	7,542	1%	3	1%	1%	22,316	1%	1%
William Beaumont	5,820	1%	4	2%	2%	41,291	2%	2%
TOTALS	594,904	100%	242	100%	100%	2,067,837	100%	100%

*Data to be revised; based on preliminary figures.

2/6/85

DALNET
CENTRAL SITE STAFFING
START-UP COST ESTIMATE

	<u>GEAC</u>		<u>NOTIS</u>	
	<u>Staff</u>	<u>Est. Cost*</u>	<u>Staff</u>	<u>Est. Cost*</u>
WSUL	Project Manager+	\$ 45,162	Project Manager+	\$ 45,162
	Ass't Manager	39,780	Ass't Manager	39,780
	Programmer+	25,740	Programmer+	25,740
	2 Computer Operators	39,780	Programmer/Analyst	33,930
	3 Student Comp. Op.	16,000	Computer Operator	19,890
	Office Assistant+	20,475	3 Student Comp. Op.	16,000
	Student	5,000	Office Assistant+	20,475
		<u>\$191,937</u>	Student	5,000
				<u>\$205,977</u>
DALNET	Ass't Manager	\$ 39,780	2 Ass't Managers	\$ 79,560
	2 Computer Operators	<u>39,780</u>	Programmer	25,740
		\$ 79,560	2 Computer Operators	<u>39,780</u>
				<u>\$145,080</u>
	TOTAL:	\$271,497		\$351,057

* incl. 17% for fringes
+ existing staff

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DALNET
CENTRAL SITE PREP
COST ESTIMATE

	<u>GEAC</u>	<u>NOTIS</u>
Consulting		
Arch./Eng. Study*	\$ 8,000	\$ 8,000
WSUL Computer facility		
Computer facility	\$269,428	\$254,428
Construction documents (10%)	26,950	25,443
Permits, etc. (5%)	<u>13,475</u>	<u>12,721</u>
Subtotal	\$309,853	\$292,592
DALNET addition**		
Computer facility	\$213,186	\$208,186
Construction documents (10%)	21,320	20,820
Permits, etc. (5%)	<u>10,660</u>	<u>10,410</u>
Subtotal	\$245,166	\$239,416
Staff areas		
Offices, etc.	\$ 91,977	\$ 91,977
Construction documents (10%)	<u>9,198</u>	<u>9,198</u>
	<u>\$101,175</u>	<u>\$101,175</u>
Grand Total	\$664,194	\$641,183

* Total study cost, incl. WSUL Kresge site, is \$12,000.

** If WSUL and DALNET are combined, anticipated savings would be \$96,000.

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PREDICTED DALNET SYSTEM GROWTH RATE

		<u>TERMINALS</u>	<u>DISK STORAGE (Mb)</u>
Year 1	WSUL only	59	2,510 Mb*
1.5	Other DALNET	<u>183</u>	<u>3,150 Mb</u>
	Subtotal	242	5,660 Mb
2	WSUL only	<u>80</u>	<u>1,362 Mb</u>
	Subtotal	322	7,022 Mb
3	Other DALNET	<u>207</u>	<u>1,433 Mb</u>
	Subtotal	529	8,455 Mb
5	WSUL and DALNET	<u>200</u>	<u>2,033 Mb</u>
	GRAND TOTAL:	729	10,488 Mb

*Includes 150 Mb for programs and work files.

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DALNET
 NOTIS (IBM) CONFIGURATION
 OPTION 2

	<u>Years 1-2</u>	<u>Years 2-3</u>	<u>Years 3-4</u>	<u>Years 5+</u>
	Terminals 0-250	251-450	451-699	700-1000
CPU	IBM 4381 - Group 1	Expansion of memory and channels	Expansion of memory and channels	4381-Group 2
DISK	3-IBM 3380* (7620Mb)	None	1-3380 (2,540Mb)	1-3380 (2540 M
DISK CONTROLLER	1-IBM 3880	None	None	1-3380
NOTIS Software	MVS Version	No change	No change	No change
PLI Compiler	MVS Version	No change	No change	No change
OPERATING System	MVS	No change	No change	No change
TELECOMM. Monitor	CICS	No change	No change	No change
OTHER SYSTEM Software	None	Performance monitor	None?	None?

*1-3380 disk = 2540 Mb

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DALNET

NOTIS (IBM) CONFIGURATION

OPTION 1

	<u>Year 1-2</u>	<u>Years 2-3</u>	<u>Years 3-4</u>	<u>Years 5+</u>
	Terminals 0-250	251-450	451-699	700-1000
CPU	IBM4361 - Group 4	4361-Group 5	IBM4381-Group 1	4381-Group 2
DISK	8-IBM 3370* (5840Mb)	3-3370 (2190Mb)	1-3380 (2540Mb)	1-3380 (2540Mb)
DISK CONTROLLER	None	None	2-3880	None
NOTIS SOFTWARE	VSE Version	No change	MVS Version	No change
PLI Compiler	SSX/VSE Version	No change	MVS Version	No change
OPERATING SYSTEM	SSX/VSE	No change	MVS	No change
TELECOMM. Monitor	CICS embedded	No change	CICS	No change
OTHER System software	None	Performance Monitor	Change?	No change

Requires
change in
CPU, NOTIS version
and system
software here.

* 1-3370 disk = 730Mb

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CHART -- START UP
TRIAL SITE

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DALNET						TOTALS
Phase One (131-322 crts)		Phase Two (322-529 crts)		Phase Three (529-729 crts)		
4381-P1 #68,000		---		4381-P2 #110,500		\$486,000
---		---		---		5,804
---		---		---		2,032
1-3380 #54,774		1-3380 54,774		1-3380 75,943		315,248
---		---		1-3380 51,230		102,460
---		---		---		42,755
---		1-3262 14,621		---		29,242
1-476L 2,495		2-476L 5,390		---		13,825
1-281B 630		2-281B 12,640		---		3,150
#124,099		#76,095		#237,193		#1,000,516
---		---		---		# 1430
10+ conv. #15,200		15+ conv. #20,050		---		70,500
242. 2,800		402. 22,000		---		6,000
---		DNCS 300 34,800		---		93,593
#25,000		#78,050		---		34,000
---		---		---		#205,523
---		---		---		80,000
---		---		---		19,668
---		---		---		15,360
---		---		---		2,844
---		---		---		3,876
---		---		---		9,500
---		---		---		12,000
---		---		---		#143,248
#2,418		#2,466		#3,795		#19,297
#237,416		---		---		#540,008
---		---		---		---
#20,000		---		---		#22,250
#20,000		---		---		40,000
---		#17,500		---		35,000
5,000		---		---		10,000
#45,000		#17,500		---		#107,250
#37,000		---		---		#49,000
#145,000		---		---		#351,057
#9,000		#3,000		#5,000		#25,000
#5,000		#3,000		#3,000		#18,000
#634,323		#180,041		#248,728		#2,455,779
---		---		---		÷ 5 years
---		---		---		#491,160/YEAR

COST ESTIMATE NOTIS (IBM) CEN OPTION 2

			Phase One (0-59 crts)	WSUL Phase Two (59-139 crts)
1	HARDWARE			
2	CPU	1-1381-M1	\$307,500	—
3	Console - CPU	2-3278	5804	—
4	Console - 3725	1-3725	7432	—
5	Disk Drive	7-3330	75,468	1-3380 \$51,774
6	Disk Controller	1-3880	51,250	—
7	Tape Drive	2-3430	42,755	—
8	System Printer	1-3262	14,621	—
9	Terminal	2-476L	5,740	—
10	Matrix Printer	2-281B	1,260	—
10	Subtotal		\$506,405	\$51,774
11	TELECOMMUNICATIONS			
12	Modem (Diag) *	1	\$1430	—
13	Modem (Dial-up)	10+ Conv.	15,200	15+ Conv. \$20,850
14	Modem Racks (Head end)			
15	Comm. Processor	1-3725 (12.1)	63,793	—
15	Network Control System		—	—
16	Subtotal		\$87,923	\$20,850
17	SOFTWARE			
18	NOTIS	MVS version	80,000	—
19	Operating System	MVS+DFP*	19,668	—
20	Communications monitor	CICS+	15,360	—
21	Compiler	MVS PL1+	2,844	—
22	Performance monitor	RMF	3,876	—
23	Other; Report writer	OS version	9,500	—
24	Film Booking	U of Iowa?	12,000	—
25	Subtotal		\$143,248	—
26	SHIPPING & INSTALLATION (1.6%) *		\$9,121	\$1,197
28	CENTRAL SITE PREPARATION **		\$300,592	—
30	INSURANCE			
32	TAPE LOADING *			
33	Bibliographic records	10 days	\$2,250	—
34	Authority records		20,000	—
35	Serials records		—	\$17,500
36	Patron records		5,000	—
37	Subtotal		\$27,250	\$17,500
38	TRAINING & DOCUMENTATION *	expenses	\$3,500	\$4,500
40	STAFF **		\$205,977	—
42	SUPPLIES *		\$6,000	\$2,000
44	MISCELLANEOUS *		\$5,000	\$2,000
45	GRAND TOTAL :		\$1,289,816	\$102,021

* Estimated

** Itemized on separate sheet

+ Assumes second license on campus

COST ESTIMATE CHART -- START UP
NOTIS (1 BM) CENTRAL SITE

OPTION 1

	VSUL		DALNET		TOTALS	
	Phase One	Phase Two	Phase One	Phase Three		
HARDWARE	(p-59 crts)	(59-139 crts)	(139-322 crts)	(322-529 crts)	(529-729 crts)	
CPU	1-4361-L4	-	4361-M5	1-4381-P1	4381-P2	\$ 745,678
Console	2-3278	-	1-3727	1-3380	1-3380	7,836
Disk Drive	8-3370	-	3-3370	2-3880	1-3380	407,677
Disk Controller	-	-	-	1-3862	1-3380	153,689
Tape Drive	2-3430	-	-	2-476L	-	42,755
System Printer	1-3262	-	-	1-476L	-	29,242
Terminal	2-476L	-	1-2818	2-2818	-	13,825
Matrix Printer	2-2818	-	-	-	-	3,150
Subtotal	\$394,084	-	\$144,485	\$ 290,590	-	\$1,403,852
TELECOMMUNICATIONS						
Modem (Diag.)	1	-	-	-	-	\$ 1,430
Modem (Dial-up)	10+ Conv.	15+ Conv.	10+ Conv.	15+ Conv.	-	70,500
Modem Racks	15,200	2,000	15,200	2,000	-	6,000
Comm. Processor	2,000	-	1-3725 (24L)	40 L.	-	92,423
Network Control System	-	-	-	DNC5 300	-	34,000
Subtotal	\$18,630	\$20,050	\$ 87,623	\$ 78,050	-	\$ 204,353
SOFTWARE						
NOTIS						
Operating System	VE vers.	-	-	MVS vers.	-	\$ 145,000
Communications Monitor	SSX/VSE	17,000	-	MVS-HFP+	19,668	36,668
Compiler	Incl. in SSX	-	-	CICS+	15,360	15,360
Performance Monitor	VSE PL1	3,539	-	MVS PL1	2,844	6,383
Other: Report Writer	Quikwrite	8,500	-	RMF	3,876	3,876
Film Booking	U of Iowa	12,000	-	OS version Change?	9,500	18,000
Subtotal	\$106,039	-	-	7	-	12,000
SHIPPING & INSTALLATION (1.6%)	\$ 6,600	\$ 320	\$ 3,700	\$ 131,248	-	\$ 237,287
CENTRAL SITE PREPARATION	\$300,592	-	-	\$ 10,450	\$ 4,650	\$ 25,720
TAPE LOADING						
Biographic records	\$ 2,250	-	\$ 20,000	-	-	\$ 22,250
Authority records	20,000	-	20,000	-	-	40,000
Serials records	-	\$17,500	-	\$ 17,500	-	35,000
Patron records	5,000	-	5,000	-	-	10,000
Subtotal	\$ 27,250	\$17,500	\$ 45,000	\$ 17,500	-	\$ 107,250
TRAINING & DOCUMENTATION	\$ 3,500	\$ 4,500	\$ 37,900	-	-	\$ 40,400
STAFF	205,977	-	145,080	-	-	351,057
SUPPLIES	6,000	2,000	9,000	3,000	5,000	25,000
MISCELLANEOUS	5,000	2,000	5,000	3,000	3,000	18,000
GRAND TOTAL:	\$1,073,672	\$46,370	\$477,788	\$1,057,357	\$303,240	\$2,958,427

* Estimated.
** Itemized on separate sheet.
+ Assumes second license on campus.

Requires change in CPU

5 years
\$ 591,685/yr

COST ESTIMATE CHART -- START UP

GEAC CENTRAL SITE

DESCRIPTION	UP/SLL			D ALNET			TOTALS
	Phase One (10-59 crts)	Phase Two (39-39 crts)	Phase One (39-32 crts)	Phase One (322-39 crts)	Phase Two (1624-224 crts)	Phase Three	
HARDWARE							
CPU	249,000	1-Prd.	1-Prst	515,150	1-1987		1,111,300
Console	1,250	100 A15	13-Drives	337,850	2-3000		1,250
Disk Drive	251,100	20700	1-62504	77,200	14-Drives		882,750
Tape Drive	39,750						119,850
System Printer	22,000						22,000
Matrix Printer	2440			2440			4,880
Subtotal	565,130	111,715	935,729	950,375			2,442,789
TELECOMMUNICATIONS							
Modem (Diag.)	2260		4	5720			5,880
Modem (Dial-up)	5650		10-1-3012+	5650	15-1-3012+		28,350
Modem Packs, etc.	2500	8475		16,000	3600		33,600
Network Control System					24,000		24,000
Subtotal	11,010	9,975	27,370	36,625			94,980
SOFTWARE							
Shipping & Installation (1.62x)	10,1250		14-1-1000	50,000			151,450
Subtotal	9,229	2,033	15,410	7,573			36,044
CENTRAL SITE PREPARATION**							
Tape-Loading	317,853		145,160				563,013
Bibliographic records	5,000		20,000				25,000
Authority records	20,000		20,000				40,000
Serials records	500		5,000				5,500
Patron records	50,000		45,000				95,000
Subtotal	550	17,500	17,500	17,500			43,400
TRAINING & DOCUMENTATION							
Staff**	191,957		7,660				227,497
Supplies*	6,000		9,000				15,000
Miscellaneous*	5,000		5,000				10,000
Subtotal	124,350	150,623	1,450,139	1,603,663			3,154,928
GRAND TOTAL:							4,776,766/year

Estimated
 Submitted on separate sheet
 LB/2/5/85

CENTRAL SITE STAFFING

Start-Up

	<u>GEAC</u>		<u>NOTIS</u>	
	<u>Staff</u>	<u>Est. Cost*</u>	<u>Staff</u>	<u>Est. Cost</u>
WSUL	Project Manager ⁺	45,000	Project Manager ⁺	45,000
	Ass't. Manager	38,000	Ass't. Manager	38,000
	Programmer ⁺	27,500	Programmers ⁺	27,500
	2 Computer Operators	46,000	Programmer/Analyst	35,000
	3 Student Comp.Op.	<u>16,000</u>	Computer Operator	23,000
		\$172,000	3 Student Comp.Op.	<u>16,000</u>
				\$184,500
DALNET	Ass't. Manager	38,000	Ass't. Manager	38,000
	2 Computer Operators	<u>46,000</u>	Programmer	27,500
		\$ 84,000	Computer Operator	<u>23,000</u>
				\$ 88,500

+ existing staff
 * incl. fringes

1b 11/30/84

CENTRAL SITE PREP
START-UP ESTIMATE

WSUL	<u>GEAC</u>	<u>NOTIS</u>
Arch./Eng. Study	\$ 12,000	\$ 12,000
Remodel/elect.	175,000	175,000
HVAC Unit	50,000	50,000
UPS (Exide 2045)	58,800	58,800
	<u>\$295,800</u>	<u>\$295,800</u>
DALNET		
Add. elec, HVAC	<u>30,000</u>	<u>10,000</u>
TOTAL	<u>\$325,800</u>	<u>\$305,800</u>

LB 11/30/84

Proportionate Share

<u>Library</u>	<u>No. of Titles</u>	<u>%</u>	<u>No. of Terminals</u>	<u>%</u>	<u>No. of Circs</u>	<u>%</u>	<u>Aver %</u>
WSUL	270,080	45%	59	24%	279,986	13%	27%
DPL	133,000	22%	83	34%	1,442,500	68%	41%
U of D	134,000	22%	50	20%	31,594	2%	15%
WCCC	24,000	4%	26	11%	128,000	6%	7%
Botsford	1,400	1%	3	1%	27,808	1%	1%
Children's	1,833	1%	3	1%	5,019	1%	1%
Harper	6,773	1%	3	1%	76,323	4%	2%
Henry Ford	10,456	2%	8	3%	13,000	1%	2%
Mt. Carmel	7,000?	1%	3	1%	7,000	1%	1%
Sinai	7,542	1%	3	1%	22,316	1%	1%
William Beaumont	<u>5,820</u>	<u>1%</u>	<u>4</u>	<u>2%</u>	<u>41,291</u>	<u>2%</u>	<u>2%</u>
Totals	601,904	101%	245	99%	2,074,837	100%	100%

LB/ff
11/2/84