U. S. Department of Housing and Urban Development
Washington, D.C. 20410-4500
Office of the Inspector General for Audit
Northwest/Alaska
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Audit-Related Memorandum
96-SE-119-0802

May 10, 1996

MEMORANDUM FOR: Helen Dunlap, Deputy Assistant Secretary for Operations, Office
of Housing, HO

FROM: A. George Tilley, District Inspector General for Audit, 0AGA

SUBJECT: Review of the Ernst and Young Database for the Multifamily Portfolio
Reengineering Model

We tested data the Office of Multifamily Housing Programs (Housing) provided to their consultant, Ernst and Young LLP, for use in the cash flow modeling of the Multifamily Portfolio Reengineering initiative. Our test included 69 of the 189 data elements for 56 of the 568 projects in the database. The objective was to determine if the data for the 69 data elements provided by Housing and to be used in the cash flow model were accurate. We also wanted to know what impact any errors would have on the cash flow model's results.

For the 56 projects we found 423 differences out of the 3,864 elements included in our testing (Attachment A.) However, only 114 of the 423 differences noted were significant, i.e., more than a 5 percent difference (Attachment B.) Also, when we ran our data through the cash flow model the difference in total costs for 54 of the 56 projects was about 3 percent. However, differences in the costs for individual projects can be significant (over 5 percent). (Attachment C.)

We have shared the information we collected with Housing and Ernst and Young. They told us they would use our results to improve their data.

There are limitations on the use of our results. Our objective was to evaluate the accuracy of data for the 69 data elements that Housing provided for use in the model. Therefore, the scope of our work precludes a conclusion on the overall database for all 568 projects and the 56 test projects. More importantly, our results can only be applied to the data elements at the time of the test, since subsequent changes were made to the database by Ernst and Young.

If you have any questions please contact Ron Jilg in the Seattle OIG Audit office at (206) 220-5360.

Attachments

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	Elements Tested	Number of Differences
1	EY Project ID	0
2	FHA Project No.	0
3	Region	2
4	State	0
5	Administrative Expense	3
6	Apartment Gross Rent	3
7	Management Fee	3
8	Operating Costs	3
9	Service Expense	0
10	Tax and Insurance Expense	4
11	Utility Expense	4
12	Classification	2
13	Debt Service	5
14	First Mortgage Payment	2
15	Mortgage Maturity Date	3
16	Mortgage Term	2
17	Original Mortgage Amount	2
18	Original Interest Rate	0
19	Program Type	0
20	Unpaid Principal Balance	37
21	Studio FMR	1
22	1Bdrm FMR	1
23	2Bdrm FMR	1
24	3Bdrm FMR	1
25	4Bdrm FMR	1
26	Average FMR	9
27	Current Vacancy	28
28	Average Studio Rent	9
29	Average 1Bdrm Rent uaExpr25	27
30	Average 2 Bdrm Rent	23
31	Average 3 Bdrm Rent	19
32	Average 4 Bdrm Rent	8
33	Average 5 Bdrm Rent	0
34	Total Assisted Units	20
35	Total Nonassisted Units	19
36	Total Units	6
37	Total Studio Units	3
38	Total 1 Bdrm Units	10
39	Total 2 Bdrm Units	7
40	Total 3 Bdrm Units	1
41	Total 4 Bdrm Units	0
42	Total 5 Bdrm Units	0
43	Total Tenant Payment	54
44	Assistance Payment	54
45	1 Section 8 Number	3
46	1 Current Expiration Date	13
47	1 Overall Expiration Date	5
48	1 Subsidized Units Contracted	6
49	2 Section 8 Number	1
50	2 Current Expiration Date	5
51	2 Overall Expiration Date	4

52	2 Subsidized Units Contracted	2
53	3 Section 8 Number	0
54	3 Current Expiration Date	0
55	3 Overall Expiration Date	0
56	3 Subsidized Units Contracted	0
57	4 Section 8 Number	0
58	4 Current Expiration Date	0
59	4 Overall Expiration Date	0
60	4 Subsidized Units Contracted	0
61	5 Section 8 Number	0
62	5 Current Expiration Date	0
63	5 Overall Expiration Date	0
64	5 Subsidized Units Contracted	0
65	6 Section 8 Number	0
66	6 Current Expiration Date	0
67	6 Overall Expiration Date	0
68	6 contract units	0
69	Current Expiration Date	7
	Total	423

	Elements Tested	Number of Differences
1	EY Project ID	0
2	FHA Project No.	0
3	Region	2
4	State	0
5	Administrative Expense	0
6	Apartment Gross Rent	0
7	Management Fee	0
8	Operating Costs	1
9	Service Expense	0
10	Tax and Insurance Expense	0
11	Utility Expense	0
12	Classification	2
13	Debt Service	0
14	First Mortgage Payment	1
15	Mortgage Maturity Date	2
16	Mortgage Term	0
17	Original Mortgage Amount	0
18	Original Interest Rate	0
19	Program Type	0
20	Unpaid Principal Balance	1
21	Studio FMR	0
22	1Bdrm FMR	0
23	2Bdrm FMR	0
24	3Bdrm FMR	0
25	4Bdrm FMR	0
26	Average FMR	0
27	Current Vacancy	7
28	Average Studio Rent	2
29	Average 1Bdrm Rent uaExpr25	9
30	Average 2 Bdrm Rent	8
31	Average 3 Bdrm Rent	5
32	Average 4 Bdrm Rent	4
33	Average 5 Bdrm Rent	0
34	Total Assisted Units	6
35	Total Nonassisted Units	3
36	Total Units	0
37	Total Studio Units	1
38	Total 1 Bdrm Units	2
39	Total 2 Bdrm Units	2
40	Total 3 Bdrm Units	1
41	Total 4 Bdrm Units	0
42	Total 5 Bdrm Units	0
43	Total Tenant Payment	17
44	Assistance Payment	21
45	1 Section 8 Number	3
46	1 Current Expiration Date	0
47	1 Overall Expiration Date	1
48	1 Subsidized Units Contracted	1
49	2 Section 8 Number	2
50	2 Current Expiration Date	0
51	2 Overall Expiration Date	2
52	2 Subsidized Units Contracted	1
53	3 Section 8 Number	1
54	3 Current Expiration Date	3

55	3 Overall Expiration Date	3
56	3 Subsidized Units Contracted	0
57	4 Section 8 Number	0
58	4 Current Expiration Date	0
59	4 Overall Expiration Date	0
60	4 Subsidized Units Contracted	0
61	5 Section 8 Number	0
62	5 Current Expiration Date	0
63	5 Overall Expiration Date	0
64	5 Subsidized Units Contracted	0
65	6 Section 8 Number	0
66	6 Current Expiration Date	0
67	6 Overall Expiration Date	0
68	6 contract units	0
69	Current Expiration Date	0
	Total	**114**

Comparison of Ernst and Young
and OIG Data Impacts on the

E&Y Project ID	E&Y Subsidy Computation from TRACS - 25 Year Present	OIG Subsidy Computation - 25 Year Present Value	Dollar Difference	Percentage Difference	E&Y Mandatory Computation from TRACS -	OIG Mandatory Computation - 25 Year	Dollar Difference	Percentage Difference	Overall Percentage Difference
33	1,998,245.74	1,816,051.87	182,193.87	9%	-15,553.38	-15,552.60	-0.78	0%	9%
41	2,277,396.66	2,347,678.81	-70,282.15	-3%	493,859.23	493,854.52	4.71	0%	-3%
44	3,916,266.96	2,855,997.50	1,060,269.46	27%	-86,247.91	-86,246.79	-1.12	0%	28%
52	5,759,235.79	6,719,946.68	-960,710.89	-17%	835,090.70	931,646.25	-96,555.55	-12%	-16%
58	3,123,594.64	1,213,669.23	1,909,925.41	61%	3,210,437.59	3,466,375.90	-255,938.31	-8%	26%
70	5,904,927.25	5,525,180.68	379,746.57	6%	1,205,670.56	1,217,940.63	-12,270.07	-1%	5%
75	8,921,119.61	7,968,267.92	952,851.69	11%	2,211,007.22	1,989,166.99	221,840.23	10%	11%
83	12,026,230.08	12,070,706.12	-44,476.04	0%	141,835.35	78,311.10	63,524.25	45%	0%
89	8,795,837.45	7,947,758.34	848,079.11	10%	980,205.06	1,066,174.90	-85,969.84	-9%	8%
90	9,741,989.23	9,483,215.88	258,773.35	3%	1,961,699.57	1,961,702.36	-2.79	0%	2%
94	5,035,934.75	4,942,698.44	93,236.31	2%	1,188,422.29	1,196,664.44	-8,242.15	-1%	1%
97	10,080,895.23	9,835,242.91	245,652.32	2%	16,252.87	167,105.66	-150,852.79	-928%	1%
106	7,029,738.51	6,023,748.48	1,005,990.03	14%	56,308.77	56,309.10	-0.33	0%	14%
108	6,425,340.89	6,393,858.39	31,482.50	0%	1,668,702.37	1,668,697.77	4.60	0%	0%
113	3,777,940.75	3,684,382.39	93,558.36	2%	1,712,597.55	1,712,597.13	0.42	0%	2%
114	5,038,631.99	4,906,738.83	131,893.16	3%	43,838.90	40,495.85	3,343.05	8%	3%
133	8,396,289.07	6,991,497.31	1,404,791.76	17%	2,524,238.43	2,524,257.57	-19.14	0%	13%
136	13,583,983.73	13,426,890.61	157,093.12	1%	424,883.89	630,844.18	-205,960.29	-48%	0%
146	4,122,068.45	4,371,679.50	-249,611.05	-6%	1,606,370.82	1,606,370.28	0.54	0%	-4%
153	6,014,083.53	7,295,313.87	-1,281,230.34	-21%	49,649.03	49,816.27	-167.24	0%	-21%
174	2,605,799.69	2,603,082.34	2,717.35	0%	412,949.77	412,945.59	4.18	0%	0%
175	6,074,096.05	5,897,448.96	176,647.09	3%	645,082.89	645,552.57	-469.68	0%	3%
176	4,010,510.21	2,552,501.83	1,458,008.38	36%	-367,997.59	-367,997.59	0.00	0%	40%
184	1,717,025.70	985,204.77	731,820.93	43%	955,355.27	964,324.12	-8,968.85	-1%	27%
189	8,396,458.09	7,391,458.78	1,004,999.31	12%	-100,210.69	-101,217.59	1,006.90	-1%	12%
205	4,159,796.27	4,136,844.23	22,952.04	1%	152,932.38	152,931.80	0.58	0%	1%
229	1,897,603.66	1,881,966.92	15,636.74	1%	263,735.18	297,319.01	-33,583.83	-13%	-1%
235	1,779,162.28	1,134,653.20	644,509.08	36%	812,848.04	813,083.16	-235.12	0%	25%
244	3,088,534.33	2,985,788.42	102,745.91	3%	748,986.12	748,981.29	4.83	0%	3%
272	4,962,061.18	5,434,195.97	-472,134.79	-10%	550,494.58	536,032.92	14,461.66	3%	-8%
276	3,636,461.28	4,378,988.43	-742,527.15	-20%	633,938.27	1,015,568.95	-381,630.68	-60%	-26%
302	5,559,974.83	5,554,745.01	5,229.82	0%	1,233,835.89	1,234,057.65	-221.76	0%	0%
317	2,142,224.28	2,976,844.16	-834,619.88	-39%	394,472.99	394,632.74	-159.75	0%	-33%
338	6,650,944.99	7,106,510.71	-455,565.72	-7%	1,432,593.31	1,432,711.43	-118.12	0%	-6%
343	15,325,134.18	14,393,382.83	931,751.35	6%	434,925.52	628,233.63	-193,308.11	-44%	5%
345	14,767,305.77	14,670,226.11	97,079.66	1%	-205,442.18	-204,810.81	-631.37	0%	1%
353	1,171,442.82	903,754.00	267,688.82	23%	435,913.42	435,644.77	268.65	0%	17%
373	4,062,585.94	4,959,678.39	-897,092.45	-22%	705,072.03	709,425.59	-4,353.56	-1%	-19%
389	1,889,442.10	2,040,717.58	-151,275.48	-8%	713,633.88	713,629.35	4.53	0%	-6%

399	4,101,252.40	2,940,039.51	1,161,212.89	28%	906,383.43	944,047.40	-37,663.97	-4%	22%
413	2,117,840.99	1,985,706.25	132,134.74	6%	510,005.29	510,002.32	2.97	0%	5%
427	2,738,777.30	2,909,960.38	-171,183.08	-6%	304,200.29	243,275.18	60,925.11	20%	-4%
429	7,191,849.18	7,361,492.86	-169,643.68	-2%	1,632,077.26	1,632,076.53	0.73	0%	-2%
458	13,399,116.96	14,388,725.28	-989,608.32	-7%	1,789,124.42	1,789,120.19	4.23	0%	-7%
467	5,988,643.99	6,518,265.68	-529,621.69	-9%	1,083,898.52	1,083,896.28	2.24	0%	-7%
471	1,753,273.84	1,886,411.02	-133,137.18	-8%	492,394.62	492,394.62	0.00	0%	-6%
492	15,167,586.26	15,597,392.90	-429,806.64	-3%	-84,417.15	-84,416.03	-1.12	0%	-3%
495	8,682,784.56	6,399,756.91	2,283,027.65	26%	64,678.45	64,671.44	7.01	0%	26%
502	4,136,276.56	2,669,766.07	1,466,510.49	35%	2,319,238.85	2,181,866.87	137,371.98	6%	25%
521	18,113,854.30	17,368,939.42	744,914.88	4%	-73,370.04	-73,369.11	-0.93	0%	4%
531	633,286.78	307,682.90	325,603.88	51%	201,286.62	562,571.84	-361,285.22	-179%	-4%
536	3,453,905.56	3,382,344.52	71,561.04	2%	270,349.83	270,353.35	-3.52	0%	2%
555	1,038,764.62	1,083,902.65	-45,138.03	-4%	100,639.18	100,632.19	6.99	0%	-4%
559	16,327,985.94	14,994,001.93	1,333,984.01	8%	-94,693.21	-94,693.17	-0.04	0%	8%
Totals	**$330,711,513.20**	**$317,602,904.68**	**$13,108,608.52**	**4%**	**$39,504,184.35**	**$40,840,009.99**	**($1,335,825.64)**	**-3%**	**3%**
			Minimum	**-39%**				**-928%**	**-33%**
			Maximum	**61%**				**45%**	**40%**