



***NRNC MARKET CHARACTERIZATION AND
PROGRAM ACTIVITIES TRACKING REPORT
PY2004***

FINAL

Prepared for

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1. EXECUTIVE SUMMARY

This section presents a summary of results from the statewide Market Characterization and Program Activities Tracking (MCPAT) Study. The Market Characterization conducted by the MCPAT Study is an integral part of the statewide Market Assessment and Evaluation activities, and is intended to inform policymakers, regulators, stakeholders, as well as program managers, implementers and evaluators about the characteristics of the California nonresidential new construction (NRNC) market and its segments. The Program Activities Tracking part of the MCPAT study focuses on the accomplishments of the statewide NRNC Savings By Design (SBD) Program, and describes the ways in which the SBD Program fits into the NRNC market. The activities described in this report cover new construction and remodel/renovation/tenant improvement projects from calendar year 2004.

1.1 MARKET CHARACTERIZATION

The market characterization part of the MCPAT Study consists of developing an understanding of the characteristics of the California NRNC market and its segments. This task requires periodic data collection to capture and describe changes in the NRNC market. Specifically, F.W. Dodge data were collected for calendar year 2004, and summarized to describe nonresidential construction value and volume, building types, building size, and design team characteristics statewide, and by investor owned utility (IOU) territory. The current report, as well as previous reports produced in PY2000-2003 are meant to allow program designers, implementers, evaluators, and market participants to determine the extent to which the NRNC market changes over a given period of time, understand how energy efficient practices are implemented into the market, and if necessary, modify the SBD Program to most effectively enhance energy efficiency practices in the new construction market. A summary of statewide findings for 2004 is presented in Table 1.1 and in Exhibit 1.1.

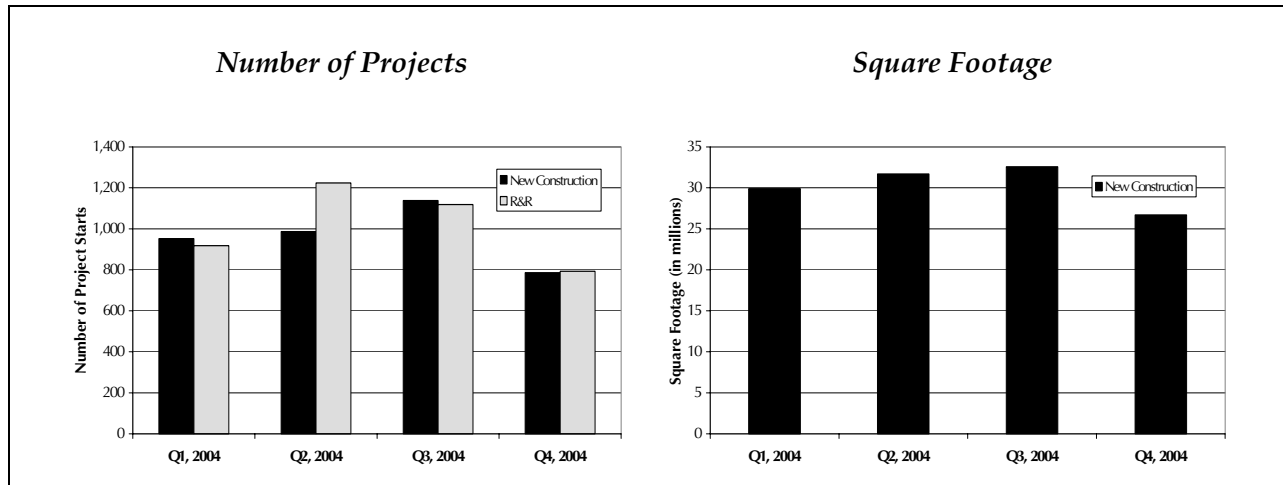
Table 1.1 Market Summary of Project Starts in California

Project Type	Quarter	Value (\$ billions)	Area (millions of sqft)	Number of Projects
New and additions	Q1, 2004	2.927	29.88	952
	Q2, 2004	3.220	31.70	987
	Q3, 2004	3.658	32.58	1,138
	Q4, 2004	2.762	26.69	786
	Subtotal	12.567	120.86	3,863
Alterations	Q1, 2004	0.772	-	918
	Q2, 2004	1.470	-	1,224
	Q3, 2004	1.072	-	1,118
	Q4, 2004	0.615	-	793
	Subtotal	3.929	-	4,053
Total		16.495	-	7,916

F.W. Dodge data indicate that there were over 7,900 nonresidential projects that started construction in California in calendar year 2004, almost equally divided between new construction and alteration projects. The value of new construction projects, however, was

approximately three times greater than of alterations. There was some variation in the overall market activity from quarter to quarter, with quarters 2 and 3 slightly more active than quarters 1 and 4; market activity varied little from quarter to quarter with respect to building type or location.

Exhibit 1.1
F.W. Dodge Nonresidential Project Starts by Quarter in 2004



1.2 SAVINGS BY DESIGN PROGRAM TRACKING AND PENETRATION

The second objective of the MCPAT Study is to track the activities surrounding the Savings By Design (SBD) NRNC program, and to evaluate its penetration levels in the overall NRNC market. The task requires the collection and analysis of the internal tracking systems maintained by each of the IOUs. The tracking systems contain data regarding the number of participants in the SBD program, type and size of projects, geographic locations, energy, demand and therm savings, and measures installed through the program.

Results indicate that SBD program participation is high in the building segments with significant market activity, namely office, school and retail. Among the measures installed by program participants, whole building design, “process and other” measures (variable speed drives, gas-fired boilers, water heating), lighting and “other HVAC measures” (VSDs, motors, furnaces, boilers, gas-fired space heating) are the most popular. These measures also account for the highest estimated energy savings, in both new construction projects and R&R projects.

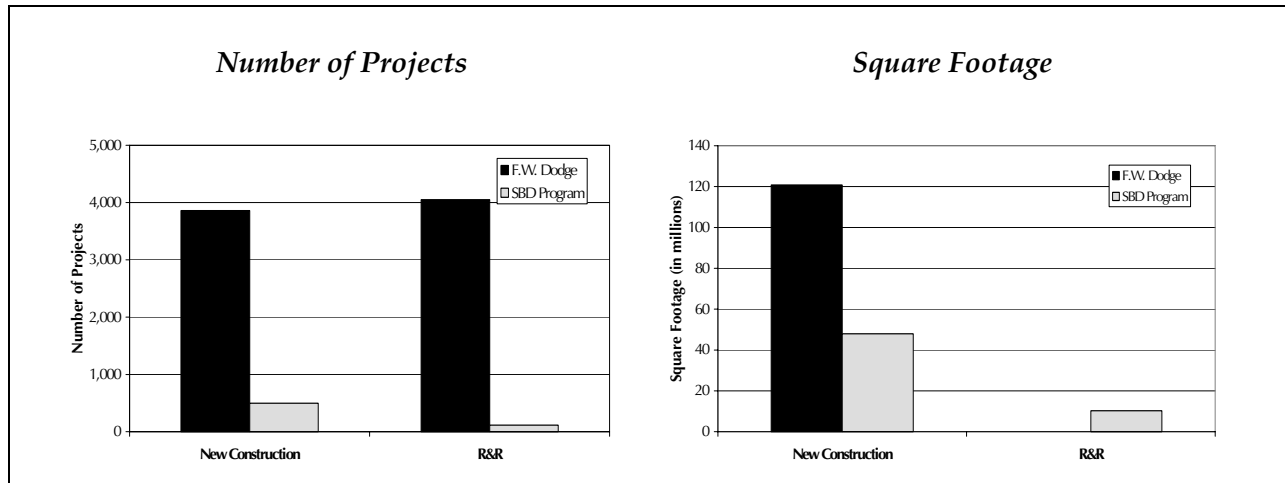
The SBD program data were used in conjunction with the NRNC market data collected in the first part of the Study to prepare the annual SBD program tracking and penetration analysis report. A summary of statewide program activity is presented in Table 1.2. Exhibit 1.2 shows program penetration results for calendar year 2004.

Table 1.2 Summary of Statewide SBD Program Activity in PY2004

Project Type	Quarter	Area (millions of sqft)	Number of Participants
New and additions	Q1, 2004	4.54	67
	Q2, 2004	18.39	126
	Q3, 2004	8.75	122
	Q4, 2004	16.29	182
	Subtotal	47.97	497
Alterations (R&R)	Q1, 2004	1.62	20
	Q2, 2004	1.86	21
	Q3, 2004	3.10	27
	Q4, 2004	3.70	47
	Subtotal	10.29	115
Total		58.26	612

Program penetration results for PY2004 indicate that the SBD program captured 12.9% of the nonresidential new construction projects and 2.8% of the R&R projects. By square footage, program penetration into the new construction market is 39.7%, indicating that the program continues to reach relatively large buildings. Although this penetration level is significant, opportunities remain for increased program penetration into the market.

Exhibit 1.2
Statewide SBD Program Penetration into the NRNC Market in 2004



1.3 HISTORIC TRENDS

A summary of market and program activity from July 1999 (i.e. from the SBD program inception) until the end of calendar year 2004 is presented in Table 1.3.

Table 1.3
Historic Statewide SBD Program and NRNC Market Activity

Program Type	Year	Quarters	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
New Construction	1999	3-4	88.38	15.37	17.4%	2,511	128	5.1%
	2000	1-4	180.15	22.92	12.7%	4,674	316	6.8%
	2001	1-4	178.49	60.53	33.9%	4,805	576	12.0%
	2002	1-4	143.62	38.63	26.9%	4,626	435	9.4%
	2003	1-4	128.63	45.17	35.1%	3,782	489	12.9%
	2004	1-4	120.86	47.97	39.7%	3,863	497	12.9%
Alterations (R&R)	1999	3-4	-	3.29	-	2,400	52	2.2%
	2000	1-4	-	13.27	-	4,654	182	3.9%
	2001	1-4	-	12.60	-	4,791	222	4.6%
	2002	1-4	-	6.65	-	4,343	127	2.9%
	2003	1-4	-	9.30	-	3,880	154	4.0%
	2004	1-4	-	10.29	-	4,053	115	2.8%

Between mid-1999 and the end of 2001 market activity was relatively stable with respect to the number of projects starting construction per year. The high SBD program participation rates in 2001 may be due to changes in building codes that went into effect on July 1, 2001 (and to the subsequent change in program requirements), but also to the overall conservation efforts undertaken in California prior to, and during the Summer of 2001.

Similar to the general trends in the California economy, activity in the NRNC sector slowed down from 2002 through 2004 as compared to the previous years; the downturn seems to have slowed down in 2004 as compared to 2002. With respect to the number of projects that started construction, 2002 marked a 5 percent decrease relative to 2000 and 2001, 2003 a 17 percent decrease relative to 2001 and 2002, and 2004 a 5 percent decrease with respect to 2002 and 2003. In terms of square footage of new construction, the NRNC market building rate dropped by approximately 20 percent in 2002 as compared to 2000 and 2001, by 20 percent in 2003 as compared to 2001 and 2002, and by 11 percent in 2004 as compared to 2002 and 2003.

SBD program activity follows similar trends as the NRNC market, with a relatively busy year in 2001 and a less active year in 2002. The 2003 and 2004 program years were slightly more active than 2002, but significantly less active than 2001. It is important to note, however, that penetration rates in 2003 and 2004 were higher than in previous years, in terms of both square footage and number of participant projects. In 2004, program penetration in terms of square footage reached a new historic high, surpassing even the high penetration rates from 2003.

The remainder of this report presents detailed market and program tracking and penetration results.

2. INTRODUCTION

The main objective of the statewide Market Characterization and Program Activity Tracking (MCPAT) Study is to gather, summarize and report nonresidential new construction (NRNC) market characteristics, as well as program tracking information in support of the statewide Savings By Design (SBD) energy efficiency program offered by Southern California Edison, Pacific Gas & Electric Company, San Diego Gas & Electric Company, and Southern California Gas Company. The publication of results on an ongoing basis allows program designers, implementers, evaluators, and market participants to determine the extent to which the NRNC market changes over a given period of time, understand how energy efficiency practices are implemented in the NRNC market, and if necessary, modify the SBD Program to most effectively enhance energy efficiency practices in the new construction market. This Annual Report summarizes the NRNC market and SBD Program tracking and penetration results in calendar year 2004.

2.1 NRNC DATA SOURCES

The MCPAT Study conducts the NRNC market characterization using several sources of information. The most important among these are the F.W. Dodge Reports, which provide detailed project information on construction projects that have *started* within a given time period (e.g. a quarter). F.W. Dodge Reports specify project title and location, type of project (new, addition or alteration), type of building under construction, area (square feet) of new or added space, project cost (valuation), and contact information (owner, architect, engineer, contractor, as available). Appendix A contains a glossary of building types tracked by F.W. Dodge.

Regarding project types, F.W. Dodge Reports make a clear distinction between new/addition projects, in which new building area is produced, and alteration projects (which include remodeling, renovation, tenant improvement, and retrofit projects). Even though retrofit projects do not qualify for the SBD program, the F.W. Dodge alteration data remain the best available source of information regarding the commercial remodel/renovation (R&R) market.

The building permit data that were filed with the 523 city and county building departments in California represent another source of NRNC data. These permit data are collected by the Construction Industry Research Board (CIRB) into a database that reports monthly permit value data by county and building type. While these data are not as complete as the F.W. Dodge Reports, they provide a framework for the value of commercial projects in California that begin construction in each quarter.

It must be noted that there are differences between the *permit* valuation reported by CIRB and the *project start* valuation reported by F.W. Dodge. Some of these differences can be attributed to the time delay that naturally occurs between permit filing and construction start. Others are due to the fact that F.W. Dodge records only publicly-bid projects, whereas some projects do not go to public bid. Appendix B summarizes the value of nonresidential *permits filed* in PY2004, by building type, as recorded by the CIRB.

2.2 THE SAVINGS BY DESIGN PROGRAM

The Savings By Design (SBD) statewide NRNC program, currently implemented by the four California electric investor-owned utilities (IOUs) PG&E, SCE, SDG&E and SoCalGas, is designed to transform energy-efficiency investment behavior in the commercial construction market. The program seeks to change the design practice of professionals in the construction industry by promoting the understanding and use of energy efficient and integrated design techniques in commercial building construction; to increase awareness of building owners of the benefits associated with integrated designs; and to increase the penetration of energy efficient materials, equipment, and systems in the commercial building market.

The SBD program targets specific links in the commercial building construction decision-making chain, reflecting differences in design activities and priorities between large and small buildings and various occupancies. The Whole Building Approach is used for complex projects where the design team can work closely to integrate the energy systems. The Systems Approach is used for projects where design of the energy systems is done at different phases: where one energy system predominates, where intervention occurs late in the design, or for buildings with simple system interactions.

Within the SBD program, “new construction” program elements address the commercial new construction market segments, including the public, private, and speculative markets. Remodeling and renovation (“R&R”) program elements address the commercial remodeling and renovation market segments specific to “gut-rehabilitation” and tenant improvement projects, including the public, private, and speculative markets.

2.3 REPORT LAYOUT

The core of this report starts in Chapter 3 with a characterization of the NRNC market in PY2004, as described by F.W. Dodge. Drawing on the Savings By Design program participation databases maintained by the four California electric investor-owned utilities (IOUs) PG&E, SCE, SDG&E and SoCalGas, the chapter then summarizes the characteristics of new construction program participants in PY2004.

Chapter 4 presents the market characteristics for alteration projects, as described by F.W. Dodge. It then describes program participation in PY2004 for the renovation/remodel/first tenant improvement (R&R) element of the SBD program.

An evaluation of SBD program penetration into the market in PY2004 is presented in Chapter 5.

Quarterly market and SBD participation data, as well as estimates for the SBD program penetration into the market from program inception in July 1999, are summarized in Chapter 6.

Based on F.W. Dodge Reports, Chapter 7 presents the most active market actors (architects, engineers and general contractors) in PY2004.

3. STATEWIDE NONRESIDENTIAL NEW CONSTRUCTION TRENDS

This chapter presents information on the nonresidential new construction activity that has occurred in PY2004, in the State of California. The first section covers the total valuation, the number of project starts, and the total square footage of new construction projects by county, as reported by F.W. Dodge. The second section analyzes the Savings By Design (SBD) program activity for new construction projects for which the IOUs have committed funds in PY2004.

3.1 NEW CONSTRUCTION MARKET CHARACTERISTICS IN PY2004

The following exhibits and tables present the nonresidential new construction market activity by building segment and county, in terms of valuation, number of permits, and square feet. To summarize the market activity by utility territory, project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities. Appendix C contains a short description of the CEC zip code-to-utility territory mapping. SoCalGas's Customer Information System (CIS) was used to obtain a comprehensive list of zip codes served by SoCalGas. Using this list, as well as the CEC mapping, a list of zip codes was developed that are served by SoCalGas, but not by any other IOU. This list includes zip codes corresponding to the Los Angeles Department of Water and Power (LADWP) territory, as well as for several other electrical MUNI territories, and is consistent with the territory in which SoCalGas's Savings By Design program offers incentives for electric measures.

Table 3.1 presents the F.W. Dodge valuation for nonresidential new construction projects that have started construction during PY2004. To emulate SBD program scope as closely as possible, additions reported by F.W. Dodge were included with new construction; this explains the higher project value reported by F.W. Dodge, as compared to the CIRB data summarized in Appendix B.

Data in Table 3.1 indicates that the PG&E service territory accounts for the largest project start value in PY2004, half of which is concentrated in the school, office and retail segments. The SCE service territory follows closely, with a large fraction of the project value concentrated in the school and storage segments. In the SDG&E and SoCalGas service territories, the school and office segments account for half of project start value. Non-IOU areas, consisting of the service territories of multiple municipal utilities and other entities, also account for a relatively large share of the project start value. Half of the Non-IOU project value is concentrated in the school, retail and medical segments.

As shown in Exhibit 3.1 below, Los Angeles, Riverside, San Diego, San Bernardino and Orange Counties account for the highest value of projects that *have started construction* in PY2004. F.W. Dodge did not report any project starts in PY2004 in Alpine, Inyo, Sierra and Trinity Counties. Among building types, school, office and retail account for the highest project start valuation, but storage, medical, service, and amusement also show relatively high market activity. The assembly segment (churches) accounts for the lowest project start value.

Exhibit 3.1
New Construction Market Segments with the Highest Project Start Valuation in PY2004

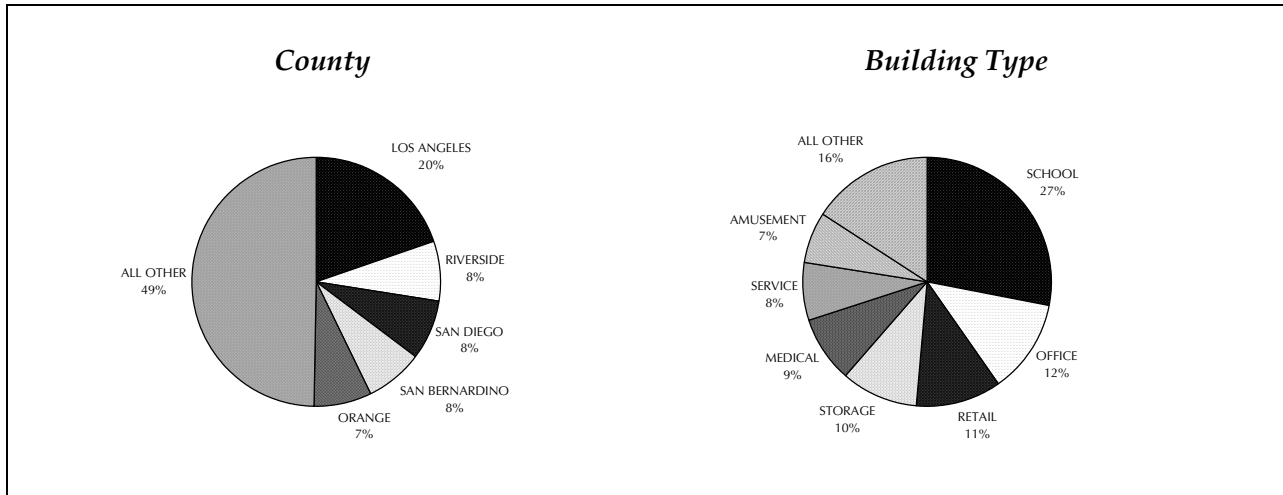
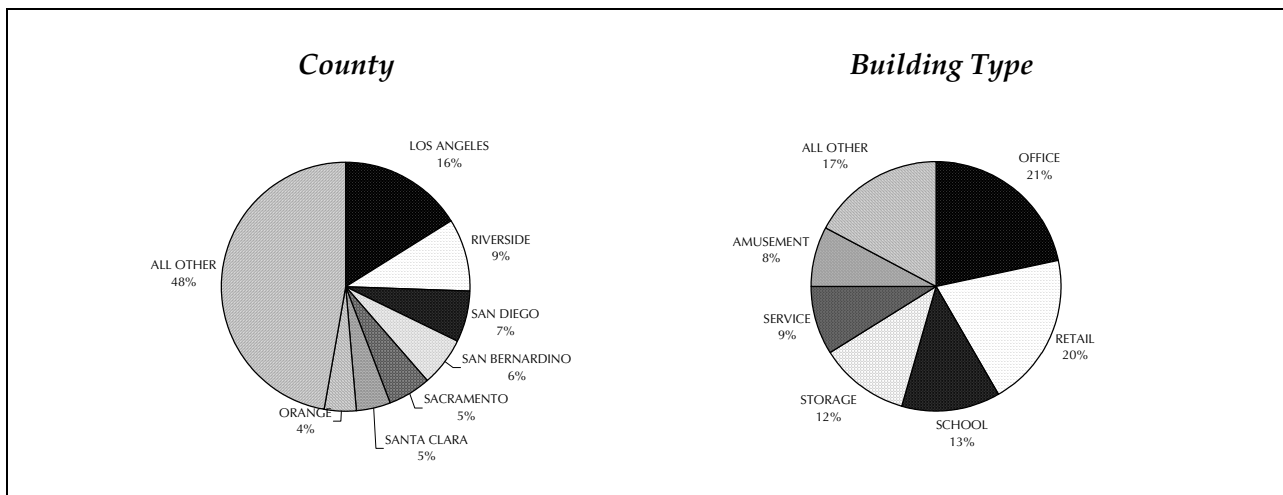


Table 3.2 presents the number of nonresidential new construction and addition projects that have started construction in PY2004, as reported by F.W. Dodge. Among utility territories, PG&E leads with the highest number of project starts, followed by SCE. SDG&E territory accounts for a few more project starts than SoCalGas territory. Non-IOU areas have a significant number of project starts, higher than the number in SDG&E and SoCalGas territories together. As shown in Exhibit 3.2 below, Los Angeles, Riverside, San Diego, San Bernardino, Sacramento, Santa Clara and Orange Counties have the highest number of new construction project starts. Among building types, office, retail, school, storage, service and amusement account for the highest number of project starts. The education segment (museums, libraries) accounts for the lowest number of project starts in PY2004.

Exhibit 3.2
New Construction Market Segments with the Highest Number of Project Starts in PY2004

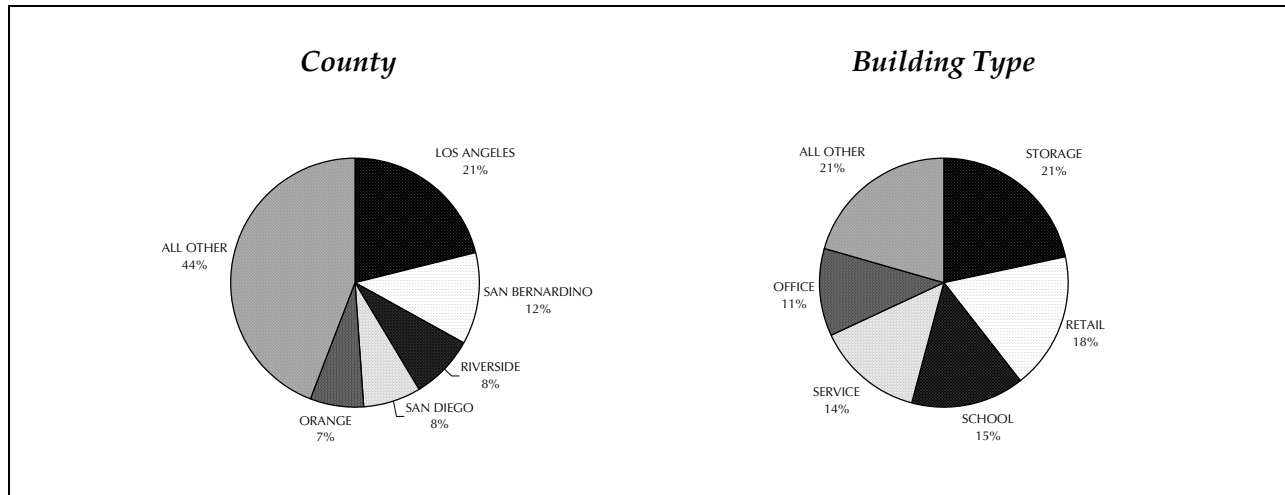


Tables 3.3 and 3.4 summarize quarterly project starts by county and building type. There is some variation from quarter to quarter in the number of project starts by segment, with quarters 2 and 3 slightly more active than quarters 1 and 4.

Table 3.5 presents the number of square feet of nonresidential new construction and addition projects that have started construction in PY2004, as reported by F.W. Dodge. Among utility territories, SCE accounts for the largest number of new square feet built in PY2004, two-thirds of which are concentrated in the storage, retail, and school segments. PG&E follows closely, with half of the square footage concentrated in the retail, office and school segments. In the SDG&E service territory, the office, retail and school segments account for the highest square footage built, while in SoCalGas territory the service, school and office segments account for almost two-thirds of new square footage. Non-IOU areas, consisting of the service territories of multiple municipal utilities and other entities, also account for a relatively large share of the new square footage built in PY2004. A large fraction of the Non-IOU project area is concentrated in the service, storage and retail segments.

As shown in Exhibit 3.3 below, the counties with the largest number of square feet attributable to new project starts are Los Angeles, San Bernardino, Riverside, San Diego and Orange. The storage, retail, school, service and office segments account for large fractions of square footage of new space, while the education (museums, libraries) and government segments account for the least amount of new space built in PY2004.

Exhibit 3.3
New Construction Market Segments with the Highest Square Footage in PY2004



Tables 3.6 and 3.7 summarize quarterly square feet of nonresidential new construction built, by county and building type. The volume of new space built did not change much from quarter to quarter in PY2004, either geographically or by building type, although quarter 4 was again slightly slower than quarters 1-3.

**Table 3.1 F.W. Dodge Valuation of New Construction Project Starts in PY2004
by Building Type, County and Service Territory (\$1,000)**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	41,501	3,440	10,305	110,862	1,525	26,565	48,611	128,898	160,856	28,202	12,411	100,927	674,103
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	1,314	.	.	439	.	.	.	.	.	117	.	2,297	4,167
BUTTE	1,056	.	.	.	62,360	1,320	5,815	6,555	32,042	614	7,689	4,428	121,879
CALAVERAS	.	.	.	.	.	.	1,875	.	.	.	991	.	2,866
COLUSA	3,520	.	.	.	.	.	.	.	2,225	.	.	.	5,745
CONTRA COSTA	9,155	7,391	13,512	9,925	5,000	.	21,557	47,201	143,550	1,994	6,496	1,511	267,292
DEL NORTE	.	.	.	.	.	.	425	.	.	.	.	405	830
EL DORADO	15,882	.	4,156	4,663	5,000	1,223	2,133	13,809	17,264	717	806	764	66,417
FRESNO	19,041	314	8,727	86,859	6,645	10,080	47,632	19,396	48,017	32,394	7,362	842	287,309
GLENN	.	.	.	.	.	.	2,100	.	3,531	.	.	.	5,631
HUMBOLDT	10,658	.	.	.	.	.	.	.	30,959	.	.	1,728	43,345
IMPERIAL	7,261	1,500	.	.	.	2,823	4,056	78,066	7,463	3,542	6,602	400	111,713
INYO	.	.	.	.	.	.	.	.	.	.	.	.	0
KERN	6,917	536	.	2,709	8,802	31,500	4,933	24,231	59,372	.	11,613	3,499	154,112
KINGS	10,128	3,965	.	19,275	86,000	1,582	495	793	33,600	.	3,780	2,779	162,397
LAKE	5,493	.	.	.	.	.	.	996	3,149	.	886	.	10,524
LASSEN	2,483	.	.	.	.	5,134	.	.	.	.	.	1,800	9,417
LOS ANGELES	74,600	7,316	23,736	68,571	12,569	237,991	249,303	222,251	829,905	345,914	336,579	72,839	2,481,574
MADERA	1,656	.	.	.	.	6,500	1,755	.	48,877	.	1,000	.	59,788
MARIN	.	150	.	.	7,494	19,000	1,130	3,773	21,287	1,061	1,048	.	54,943
MARIPOSA	1,373	.	.	.	.	760	.	.	500	.	.	.	2,633
MENDOCINO	.	.	.	.	.	4,500	.	4,200	.	.	.	.	8,700
MERCED	.	3,940	.	3,439	.	.	4,460	1,076	21,600	.	15,177	883	50,575
MODOC	.	.	.	.	.	.	.	.	682	.	.	.	682
MONO	1,242	.	.	.	.	.	.	.	.	.	.	2,000	3,242
MONTREY	10,418	.	15,300	218	2,197	871	2,221	5,940	24,924	11,518	4,399	20,055	98,061
NAPA	2,085	.	.	.	.	8,660	249	1,080	2,950	7,319	2,300	771	18,459
NEVADA	5,470	.	.	.	.	249	.	2,950	7,319	2,300	565	200	28,793
ORANGE	73,327	4,603	30,488	22,605	17,057	297,450	56,784	76,030	212,616	64,968	60,976	1,919	918,823
PLACER	4,225	2,900	.	1,691	.	827	57,563	47,406	86,988	45,722	10,434	52,791	310,547
PLUMAS	.	85	.	.	90	5,224	1,266	102	.	93	1,529	.	8,389
RIVERSIDE	69,538	28,912	13,833	27,113	6,924	36,831	103,510	111,353	399,338	28,635	135,890	22,863	984,740
SACRAMENTO	20,973	10,818	8,065	3,296	90,500	187,519	75,338	59,444	116,118	13,473	41,247	3,352	630,143
SAN BENITO	.	.	.	2,069	.	.	1,715	5,094	3,735	.	138	1,966	14,717
SAN BERNARDINO	64,999	6,820	.	16,940	33,379	9,169	69,404	104,820	196,208	22,540	361,141	70,167	955,587
SAN DIEGO	62,183	8,462	35,744	22,496	34,931	6,959	214,405	116,665	329,458	77,969	24,613	35,418	969,303
SAN FRANCISCO	7,426	.	.	.	.	10,720	1,235	.	70,890	41,480	.	15,000	146,751
SAN JOAQUIN	60,092	1,375	.	2,094	5,000	18,800	34,954	15,981	41,247	16,878	70,618	5,574	272,613
SAN LUIS OBISPO	5,135	.	9,500	4,897	19,873	2,639	7,305	11,708	32,102	1,480	3,353	4,591	102,583
SAN MATEO	12,741	3,000	39,500	103,016	.	.	6,909	45,226	59,355	47,500	5,765	.	323,012
SANTA BARBARA	4,736	587	10,472	1,374	.	1,203	29,576	13,235	42,223	20,876	12,378	10,549	147,209
SANTA CLARA	139,347	8,374	31,776	25,267	5,000	334	47,989	46,638	87,459	63,447	13,025	8,355	477,011
SANTA CRUZ	808	350	4,500	1,539	130	507	1,679	4,705	35,396	9,279	.	233	59,126
SHASTA	8,407	1,555	.	429	3,000	.	12,990	6,000	7,390	.	242	.	40,013
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	.	218	.	8,122	298	1,430	.	.	124	.	521	438	11,151
SOLANO	928	.	.	11,052	6,080	3,450	300,286	31,888	15,206	300	156	20,256	389,602
SONOMA	18,466	1,000	36,578	3,700	5,673	5,065	20,838	9,305	39,023	8,383	12,569	2,078	162,678
STANISLAUS	24,320	718	.	3,507	3,100	108,494	9,403	9,348	102,219	16,350	3,559	909	281,927
SUTTER	3,960	.	.	.	.	.	4,471	10,651	6,076	.	2,271	.	27,429
TEHAMA	.	.	.	969	.	.	1,354	6,605	950	76	115	658	10,727
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	11,165	2,676	.	829	82	3,744	15,628	10,790	27,727	286	3,641	8,251	84,819
TUOLUMNE	.	307	.	.	358	1,097	245	.	1,354	299	.	255	3,915
VENTURA	7,831	2,750	10,500	15,878	32,965	46,353	18,854	44,335	25,661	3,510	38,195	4,879	251,711
YOLO	2,520	.	800	9,221	2,000	.	70,279	36,454	68,146	25,420	5,826	2,115	222,781
YUBA	.	.	.	.	2,500	.	624	90	7,134	11,491	.	2,300	24,139
CALIFORNIA	834,380	114,062	307,492	595,064	475,192	1,097,913	1,567,660	1,388,822	3,511,265	949,078	1,232,670	493,045	12,566,643
UTILITY													
SCE	214,687	45,011	60,514	91,416	84,972	191,686	302,624	456,627	1,115,594	206,236	790,820	125,084	3,685,271
PG&E	389,584	39,591	169,293	398,952	229,107	248,461	733,612	556,958	1,319,996	345,003	210,552	260,797	4,901,906
SDG&E	66,383	10,962	35,744	26,452	34,931	10,959	217,760	125,489	350,303	78,189	44,313	35,918	1,037,403
SoCalGas	12,094	1,870	3,339	40,133	22,201	191,339	195,449	41,664	341,083	99,740	28,610	20,199	997,721
Non-IOU	151,632	16,628	38,602	38,111	103,981	455,468	118,215	208,084	384,289	219,910	158,375	51,047	1,944,342

Table 3.2 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2004 by Building Type, County and Service Territory

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	11	3	1	5	1	7	31	28	12	14	8	3	124
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	4	.	.	1	.	.	.	.	.	1	.	1	7
BUTTE	2	.	.	.	5	3	7	3	3	2	6	2	33
CALAVERAS	.	.	.	.	.	.	7	.	.	.	2	.	9
COLUSA	1	.	.	.	.	.	.	.	1	.	.	.	2
CONTRA COSTA	6	7	2	3	2	.	18	21	17	3	5	7	91
DEL NORTE	.	.	.	.	.	.	1	.	.	.	.	1	2
EL DORADO	5	.	1	1	1	2	13	8	7	2	5	4	49
FRESNO	5	2	4	3	2	6	54	8	8	8	7	2	109
GLENN	.	.	.	.	.	.	1	.	2	.	.	.	3
HUMBOLDT	3	.	.	.	.	.	.	.	4	.	.	1	8
IMPERIAL	2	1	.	.	.	3	6	23	3	5	7	1	51
INYO	.	.	.	.	.	.	.	.	.	.	.	.	0
KERN	6	3	.	1	3	2	22	18	8	.	26	15	104
KINGS	4	2	.	1	4	1	2	4	4	.	6	2	30
LAKE	2	.	.	.	.	.	.	2	2	.	3	.	9
LASSEN	1	.	.	.	.	1	.	.	.	.	.	1	3
LOS ANGELES	34	13	6	11	5	17	94	119	108	115	75	28	625
MADERA	1	.	.	.	.	1	4	.	3	.	1	.	10
MARIN	.	1	.	.	1	2	4	3	8	2	2	.	23
MARIPOSA	1	.	.	.	.	1	.	.	1	.	.	.	3
MENDOCINO	.	.	.	.	.	1	.	2	.	.	.	.	3
MERCED	.	2	.	2	.	.	6	10	1	.	5	2	28
MODOC	.	.	.	.	.	.	.	.	1	.	.	.	1
MONO	1	.	.	.	.	.	.	.	.	.	.	1	2
MONTEREY	4	.	1	1	2	2	4	11	8	4	11	15	63
NAPA	3	.	.	.	.	.	4	4	.	1	3	1	16
NEVADA	2	.	.	.	2	2	4	3	2	2	1	1	19
ORANGE	17	4	5	5	3	5	23	41	17	20	17	4	161
PLACER	5	2	.	1	.	3	54	46	12	11	11	9	154
PLUMAS	.	1	.	.	1	1	4	1	.	1	5	.	14
RIVERSIDE	36	16	2	11	3	16	64	82	51	20	54	10	365
SACRAMENTO	15	6	1	2	6	7	52	58	19	8	30	3	207
SAN BENITO	.	.	.	1	.	.	1	2	3	.	1	2	10
SAN BERNARDINO	17	5	.	7	7	9	37	68	25	22	40	13	250
SAN DIEGO	31	8	9	7	8	4	58	44	38	28	13	6	254
SAN FRANCISCO	7	.	.	.	.	2	3	.	6	13	.	1	32
SAN JOAQUIN	7	2	.	2	2	3	31	9	12	7	16	6	97
SAN LUIS OBISPO	6	.	1	3	6	1	20	19	7	3	5	8	79
SAN MATEO	3	2	3	2	.	.	12	8	6	7	5	.	48
SANTA BARBARA	10	2	2	1	.	2	22	11	3	5	15	6	79
SANTA CLARA	15	5	5	2	1	2	53	31	24	18	11	7	174
SANTA CRUZ	3	1	1	1	1	1	7	3	2	3	.	2	25
SHASTA	4	1	.	1	1	.	6	1	5	.	2	.	21
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	.	1	.	2	2	3	.	.	1	.	3	4	16
SOLANO	2	.	.	1	2	1	2	13	6	1	1	6	35
SONOMA	5	1	2	1	2	4	16	9	6	3	9	5	63
STANISLAUS	3	3	.	3	1	6	23	12	15	3	8	3	80
SUTTER	1	.	.	.	.	.	6	3	2	.	3	.	15
TEHAMA	.	.	.	1	.	.	7	2	1	1	1	3	16
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	6	3	.	1	1	6	16	13	9	3	11	11	80
TUOLUMNE	.	1	.	.	1	1	1	.	2	3	.	2	11
VENTURA	5	1	1	3	3	4	15	21	8	7	16	5	89
YOLO	6	.	1	1	1	.	19	7	6	2	3	6	52
YUBA	.	.	.	.	1	.	2	1	2	1	.	2	9
CALIFORNIA	302	99	48	88	81	132	836	772	491	349	453	212	3,863
UTILITY													
SCE	93	30	7	26	17	46	185	263	133	79	161	46	1,086
PG&E	123	40	21	36	36	50	426	285	201	109	165	104	1,596
SDG&E	34	9	9	10	8	5	62	48	41	29	19	7	281
SoCalGas	9	4	1	7	3	8	36	47	48	54	18	12	247
Non-IOU	43	16	10	9	17	23	127	129	68	78	90	43	653

Table 3.3 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2004 by Quarter, County and Service Territory

	Q1, 2004	Q2, 2004	Q3, 2004	Q4, 2004	2004 Total
COUNTY					
ALAMEDA	32	29	34	29	124
ALPINE	0	0	0	0	0
AMADOR	2	2	2	1	7
BUTTE	11	8	10	4	33
CALAVERAS	1	3	4	1	9
COLUSA	0	1	1	0	2
CONTRA COSTA	13	23	37	18	91
DEL NORTE	0	2	0	0	2
EL DORADO	12	13	21	3	49
FRESNO	33	40	26	10	109
GLENN	0	0	2	1	3
HUMBOLDT	1	4	3	0	8
IMPERIAL	14	14	15	8	51
INYO	0	0	0	0	0
KERN	25	24	25	30	104
KINGS	5	9	12	4	30
LAKE	3	3	2	1	9
LASSEN	1	1	1	0	3
LOS ANGELES	173	139	171	142	625
MADERA	0	6	4	0	10
MARIN	5	5	8	5	23
MARIPOSA	0	2	1	0	3
MENDOCINO	0	0	2	1	3
MERCED	3	6	7	12	28
MODOC	0	1	0	0	1
MONO	0	1	1	0	2
MONTEREY	14	18	17	14	63
NAPA	4	8	2	2	16
NEVADA	1	7	6	5	19
ORANGE	42	45	38	36	161
PLACER	34	36	46	38	154
PLUMAS	2	4	4	4	14
RIVERSIDE	98	101	110	56	365
SACRAMENTO	41	59	77	30	207
SAN BENITO	5	3	0	2	10
SAN BERNARDINO	50	58	77	65	250
SAN DIEGO	65	60	78	51	254
SAN FRANCISCO	9	9	4	10	32
SAN JOAQUIN	29	27	22	19	97
SAN LUIS OBISPO	19	20	25	15	79
SAN MATEO	12	12	9	15	48
SANTA BARBARA	25	11	20	23	79
SANTA CLARA	43	42	55	34	174
SANTA CRUZ	0	5	15	5	25
SHASTA	6	3	6	6	21
SIERRA	0	0	0	0	0
SISKIYOU	1	4	4	7	16
SOLANO	7	11	8	9	35
SONOMA	14	17	23	9	63
STANISLAUS	28	21	23	8	80
SUTTER	5	3	4	3	15
TEHAMA	4	4	7	1	16
TRINITY	0	0	0	0	0
TULARE	21	18	22	19	80
TUOLUMNE	1	3	3	4	11
VENTURA	19	21	30	19	89
YOLO	16	18	13	5	52
YUBA	3	3	1	2	9
CALIFORNIA	952	987	1,138	786	3,863
UTILITY					
SCE	252	279	324	231	1,086
PG&E	387	423	460	326	1,596
SDG&E	79	65	85	52	281
SoCalGas	69	57	70	51	247
Non-IOU	165	163	199	126	653

Table 3.4 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2004 by Quarter, Building Type and Service Territory

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Q1, 2004	69	24	12	20	16	35	226	187	120	78	115	50	952
Q2, 2004	89	21	14	21	18	30	204	190	136	90	125	49	987
Q3, 2004	85	28	12	30	20	34	254	232	147	95	135	66	1,138
Q4, 2004	59	26	10	17	27	33	152	163	88	86	78	47	786
2004 Total	302	99	48	88	81	132	836	772	491	349	453	212	3,863
SCE													
Q1, 2004	19	8	2	6	3	12	47	64	27	14	35	15	252
Q2, 2004	27	8	2	6	4	11	58	62	25	17	49	10	279
Q3, 2004	26	5	2	9	3	11	52	77	55	23	50	11	324
Q4, 2004	21	9	1	5	7	12	28	60	26	25	27	10	231
2004 Total	93	30	7	26	17	46	185	263	133	79	161	46	1,086
PG&E													
Q1, 2004	23	7	8	5	7	14	129	80	29	23	44	18	387
Q2, 2004	45	8	5	9	8	12	85	65	82	33	41	30	423
Q3, 2004	35	17	2	13	12	12	130	78	57	24	49	31	460
Q4, 2004	20	8	6	9	9	12	82	62	33	29	31	25	326
2004 Total	123	40	21	36	36	50	426	285	201	109	165	104	1,596
SDG&E													
Q1, 2004	11	4	2	3	4	3	17	10	10	8	5	2	79
Q2, 2004	5	2	4	1	1	.	12	17	7	10	6	.	65
Q3, 2004	11	2	1	5	.	2	27	13	8	7	7	2	85
Q4, 2004	7	1	2	1	3	.	6	8	16	4	1	3	52
2004 Total	34	9	9	10	8	5	62	48	41	29	19	7	281
SoCalGas													
Q1, 2004	4	1	.	3	.	1	9	8	22	14	5	2	69
Q2, 2004	3	1	.	3	1	1	10	11	7	17	2	1	57
Q3, 2004	1	.	1	.	1	5	9	14	11	17	6	5	70
Q4, 2004	1	2	.	1	1	1	8	14	8	6	5	4	51
2004 Total	9	4	1	7	3	8	36	47	48	54	18	12	247
Non-IOU													
Q1, 2004	12	4	.	3	2	5	24	25	32	19	26	13	165
Q2, 2004	9	2	3	2	4	6	39	35	15	13	27	8	163
Q3, 2004	12	4	6	3	4	4	36	50	16	24	23	17	199
Q4, 2004	10	6	1	1	7	8	28	19	5	22	14	5	126
2004 Total	43	16	10	9	17	23	127	129	68	78	90	43	653

Table 3.5 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2004 by Building Type, County and Service Territory (1,000 sqft)

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
COUNTY													
ALAMEDA	224	28	46	482	28	308	283	1,858	722	535	299	116	4,929
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	11	.	.	3	.	.	.	.	.	3	.	.	24
BUTTE	4	.	.	.	411	20	78	153	160	7	124	76	1,033
CALAVERAS	.	.	.	.	.	.	25	.	.	.	37	.	61
COLUSA	40	.	.	.	.	.	.	.	14	.	.	.	54
CONTRA COSTA	59	117	74	76	53	.	261	744	408	29	134	20	1,974
DEL NORTE	.	.	.	.	.	.	4	.	.	.	.	.	11
EL DORADO	71	.	16	25	50	9	32	244	70	9	104	18	648
FRESNO	120	3	31	588	82	155	500	361	263	808	135	16	3,063
GLENN	.	.	.	.	.	.	13	.	19	.	.	.	32
HUMBOLDT	50	.	.	.	.	.	.	.	560	.	.	14	624
IMPERIAL	53	9	.	.	.	17	42	1,283	36	44	171	8	1,663
INYO	.	.	.	.	.	.	.	.	.	.	.	.	0
KERN	79	9	.	21	106	134	80	514	349	.	315	73	1,679
KINGS	62	41	.	100	488	7	10	17	303	.	86	34	1,148
LAKE	24	.	.	.	.	.	.	21	15	.	30	.	89
LASSEN	17	.	.	.	.	24	.	.	.	.	.	60	101
LOS ANGELES	361	95	63	291	167	1,252	2,081	3,132	4,274	6,199	7,020	729	25,663
MADERA	23	.	.	.	.	75	29	.	205	.	28	.	360
MARIN	.	3	.	.	66	120	14	36	138	9	25	.	410
MARIPOSA	5	.	.	.	.	5	.	.	5	.	.	.	15
MENDOCINO	.	.	.	.	.	27	.	58	.	.	.	.	84
MERCED	.	40	.	12	.	.	50	25	93	.	215	17	452
MODOC	.	.	.	.	.	.	.	.	3	.	.	.	3
MONO	6	.	.	.	.	.	.	.	.	.	.	42	48
MONTEREY	78	.	68	1	40	11	26	57	140	166	69	234	890
NAPA	11	.	.	.	.	.	17	84	.	3	158	22	294
NEVADA	23	.	.	.	90	3	18	51	13	35	14	8	255
ORANGE	619	45	130	65	208	1,302	654	1,366	1,026	1,458	1,252	28	8,152
PLACER	33	39	.	5	.	13	755	754	427	841	341	260	3,467
PLUMAS	.	1	.	.	1	42	15	2	.	2	37	.	99
RIVERSIDE	495	251	57	152	128	369	1,191	1,855	2,070	429	2,631	469	10,096
SACRAMENTO	150	88	13	15	629	693	999	786	631	218	915	65	5,199
SAN BENITO	.	.	.	8	.	.	17	21	28	.	3	51	128
SAN BERNARDINO	372	81	.	57	409	126	1,012	1,591	1,219	355	7,800	1,302	14,325
SAN DIEGO	307	79	132	97	335	83	2,219	1,711	1,540	1,453	767	358	9,080
SAN FRANCISCO	44	.	.	.	.	60	9	.	297	.	.	181	1,188
SAN JOAQUIN	227	23	.	9	80	116	452	294	257	188	1,563	81	3,290
SAN LUIS OBISPO	17	.	47	28	211	24	100	202	191	28	71	36	955
SAN MATEO	50	48	168	313	.	.	73	633	125	462	102	.	1,973
SANTA BARBARA	51	4	50	7	.	10	222	263	138	261	311	170	1,486
SANTA CLARA	302	104	119	112	50	2	647	766	368	1,082	130	84	3,766
SANTA CRUZ	4	4	14	6	2	7	17	101	106	198	.	5	463
SHASTA	47	8	.	2	52	.	88	93	55	.	3	.	349
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	.	2	.	31	4	10	.	.	1	.	12	8	67
SOLANO	8	.	.	39	86	30	500	417	46	4	6	118	1,254
SONOMA	208	12	146	13	66	35	241	135	183	272	186	42	1,537
STANISLAUS	98	10	.	15	44	388	160	186	471	336	82	14	1,804
SUTTER	55	.	.	.	.	.	56	136	215	.	48	.	509
TEHAMA	.	.	.	4	.	.	15	148	8	2	3	8	187
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	97	20	.	6	1	32	137	194	261	6	124	107	985
TUOLUMNE	.	3	.	.	5	10	3	.	6	.	.	3	36
VENTURA	60	16	22	69	444	284	275	578	153	62	782	124	2,869
YOLO	25	.	4	39	43	.	232	503	262	541	131	30	1,810
YUBA	.	.	.	.	40	.	7	1	42	15	.	74	180
CALIFORNIA	4,589	1,181	1,199	2,690	4,419	5,801	13,658	21,366	17,915	16,662	26,263	5,117	120,859
UTILITY													
SCE	1,381	423	200	434	1,145	1,299	3,700	7,094	5,772	3,536	16,840	2,317	44,141
PG&E	1,821	495	714	1,853	1,883	1,489	4,826	8,680	6,593	5,953	4,473	1,722	40,503
SDG&E	355	99	132	110	335	114	2,258	1,896	1,648	1,457	1,197	366	9,967
SoCalGas	56	27	15	146	251	839	1,370	732	1,872	1,999	613	257	8,175
Non-IOU	975	137	138	148	805	2,060	1,504	2,964	2,031	3,717	3,139	455	18,073

Table 3.6 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2004 by Quarter, County and Service Territory (1,000 sqft)

	Q1, 2004	Q2, 2004	Q3, 2004	Q4, 2004	2004 Total
COUNTY					
ALAMEDA	1,349	1,215	989	1,376	4,929
ALPINE	0	0	0	0	0
AMADOR	6	4	12	3	24
BUTTE	216	389	317	111	1,033
CALAVERAS	3	40	16	3	61
COLUSA	0	14	40	0	54
CONTRA COSTA	303	647	652	371	1,974
DEL NORTE	0	11	0	0	11
EL DORADO	199	211	223	14	648
FRESNO	330	2,062	540	132	3,063
GLENN	0	0	19	13	32
HUMBOLDT	14	553	58	0	624
IMPERIAL	619	424	416	204	1,663
INYO	0	0	0	0	0
KERN	438	334	342	565	1,679
KINGS	84	297	748	20	1,148
LAKE	33	38	15	3	89
LASSEN	24	17	60	0	101
LOS ANGELES	7,777	4,724	7,749	5,412	25,663
MADERA	0	260	100	0	360
MARIN	33	107	170	100	410
MARIPOSA	0	10	5	0	15
MENDOCINO	0	0	54	31	84
MERCED	206	71	144	33	452
MODOC	0	3	0	0	3
MONO	0	42	6	0	48
MONTEREY	328	278	171	112	890
NAPA	177	102	7	9	294
NEVADA	5	126	77	47	255
ORANGE	2,108	1,743	1,819	2,481	8,152
PLACER	574	604	1,537	753	3,467
PLUMAS	5	8	28	58	99
RIVERSIDE	2,985	2,863	2,867	1,381	10,096
SACRAMENTO	1,058	1,253	1,632	1,257	5,199
SAN BENITO	84	37	0	7	128
SAN BERNARDINO	2,030	2,769	3,678	5,848	14,325
SAN DIEGO	3,375	2,260	1,687	1,758	9,080
SAN FRANCISCO	177	476	323	213	1,188
SAN JOAQUIN	702	1,338	736	514	3,290
SAN LUIS OBISPO	208	352	197	198	955
SAN MATEO	569	534	225	646	1,973
SANTA BARBARA	504	193	482	308	1,486
SANTA CLARA	1,018	997	591	1,161	3,766
SANTA CRUZ	0	118	327	19	463
SHASTA	84	66	85	114	349
SIERRA	0	0	0	0	0
SISKIYOU	7	7	33	20	67
SOLANO	270	254	673	56	1,254
SONOMA	388	560	448	142	1,537
STANISLAUS	272	693	752	88	1,804
SUTTER	43	246	74	146	509
TEHAMA	13	14	155	4	187
TRINITY	0	0	0	0	0
TULARE	249	195	193	349	985
TUOLUMNE	3	18	7	8	36
VENTURA	696	921	724	528	2,869
YOLO	273	1,101	380	57	1,810
YUBA	49	108	2	20	180
CALIFORNIA	29,885	31,703	32,581	26,691	120,859
UTILITY					
SCE	10,383	10,642	11,890	11,226	44,141
PG&E	8,450	13,790	10,909	7,354	40,503
SDG&E	3,778	2,331	2,100	1,758	9,967
SoCalGas	2,987	1,221	3,036	932	8,175
Non-IOU	4,287	3,719	4,645	5,421	18,073

Table 3.7 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2004 by Quarter, Building Type and Service Territory (1,000 sqft)

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Q1, 2004	1,140	262	217	355	976	1,118	3,781	6,133	4,677	4,250	5,861	1,116	29,885
Q2, 2004	1,371	160	448	1,229	1,306	538	3,423	5,767	4,884	3,676	7,814	1,087	31,703
Q3, 2004	1,217	461	185	451	1,173	1,862	4,582	5,926	5,386	4,259	5,795	1,284	32,581
Q4, 2004	860	298	349	655	966	2,282	1,872	3,541	2,968	4,477	6,794	1,631	26,691
2004 Total	4,589	1,181	1,199	2,690	4,419	5,801	13,658	21,366	17,915	16,662	26,263	5,117	120,859
SCE													
Q1, 2004	432	147	79	108	171	287	1,073	1,798	1,435	1,110	3,117	628	14,552
Q2, 2004	325	40	71	153	434	207	1,089	1,788	859	273	5,046	355	12,643
Q3, 2004	438	64	28	101	210	496	896	2,127	2,682	955	3,531	362	14,030
Q4, 2004	187	172	22	72	331	309	641	1,382	795	1,198	5,146	972	11,201
2004 Total	1,381	423	200	434	1,145	1,299	3,700	7,094	5,772	3,536	16,840	2,317	44,141
PG&E													
Q1, 2004	271	33	135	62	345	335	901	2,941	737	1,074	1,238	379	9,311
Q2, 2004	905	90	292	954	493	179	1,231	2,191	3,232	2,137	1,428	659	9,594
Q3, 2004	418	307	48	277	741	681	1,888	1,990	1,667	1,462	988	442	11,674
Q4, 2004	227	66	239	560	304	295	807	1,558	957	1,280	820	243	11,295
2004 Total	1,821	495	714	1,853	1,883	1,489	4,826	8,680	6,593	5,953	4,473	1,722	40,503
SDG&E													
Q1, 2004	110	66	3	50	248	37	1,502	492	425	615	196	33	4,352
Q2, 2004	53	5	72	26	60	.	398	704	223	457	334		4,174
Q3, 2004	102	27	16	34	.	76	241	530	403	202	412	58	4,115
Q4, 2004	91	2	42	0	27	.	116	170	598	182	255	275	2,420
2004 Total	355	99	132	110	335	114	2,258	1,896	1,648	1,457	1,197	366	9,967
SoCalGas													
Q1, 2004	38	2	.	43	.	400	54	238	1,106	639	432	36	5,141
Q2, 2004	17	15	.	87	197	1	241	151	161	329	22	1	4,686
Q3, 2004	1	.	15	.	52	431	1,052	120	282	859	38	187	7,148
Q4, 2004	1	10	.	16	2	7	23	224	323	172	123	32	4,766
2004 Total	56	27	15	146	251	839	1,370	732	1,872	1,999	613	257	8,175
Non-IOU													
Q1, 2004	289	15	.	93	212	60	251	665	974	812	878	40	2,253
Q2, 2004	72	11	14	10	122	151	464	932	410	480	984	71	2,909
Q3, 2004	258	64	79	39	170	178	504	1,161	351	780	827	235	4,483
Q4, 2004	356	48	46	7	302	1,671	286	207	296	1,645	450	109	2,869
2004 Total	975	137	138	148	805	2,060	1,504	2,964	2,031	3,717	3,139	455	18,073

3.2 SBD NEW CONSTRUCTION PROGRAM PARTICIPATION IN PY2004

Savings By Design (SBD) program activity for nonresidential new construction participants for whom the IOUs have committed funds in PY2004 is summarized below. Program commitment indicates that the customer has filed an application, that the utility has reviewed it and found that it fits within the scope of the SBD program, that an agreement was signed between the utility and the customer, detailing the conditions of participation in the program, and that the application has not been subsequently cancelled. Program commitment was established using the following dates from the tracking systems maintained by the IOUs: the “coupon issue date” for SCE participants, the “acceptance date” for PG&E participants, and the “sign date” for SDG&E and SoCalGas participants.

The SBD program targets specific links in the commercial building construction decision-making chain, reflecting differences in design activities and priorities between large and small buildings and various occupancies. The Whole Building Approach is used for complex projects where the design team can work closely to integrate the energy systems. For participants adopting the Whole Building Approach, energy savings can be attributed to the integration of multiple energy efficient measures into the building design. The Systems Approach is used for projects where design of the energy systems is done at different phases: where one energy system predominates, where intervention occurs late in the design, or for buildings with simple system interactions. For the SBD program participants adopting the Systems Approach, energy savings can be attributed to one or more of several measure classes implemented: daylighting, HVAC, envelope, motors, etc.

The following tables summarize program participation by building type and measure. Participation is provided for the whole building approach and the systems approach separately.

Table 3.8 presents the number of new construction nonresidential participants to the SBD program for which funds were committed in PY2004.

Table 3.9 summarizes the number of square feet of new construction committed in PY2004.

Table 3.10, 3.11 and 3.12 respectively show the estimated annual MWh, kW and therm savings attributable to new construction measures committed in PY2004.

Table 3.13 presents the frequency with which classes of measures were installed by new construction SBD participants in PY2004. A glossary of the measure classes is presented in Appendix D.

Table 3.14, 3.15 and 3.16 respectively summarize the estimated annual MWh, kW and therm savings by measure class, in new construction committed in PY2004.

Table 3.8 Number of Nonresidential New Construction SBD Participants in PY2004

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	7	1	1	1	2	80	57	52	.	8	19	228
Systems Approach	3	12	5	.	4	11	56	44	25	29	11	69	269
Total	3	19	6	1	5	13	136	101	77	29	19	88	497
SCE													
Whole Building Approach	.	.	.	.	.	.	3	37	8	.	.	10	58
Systems Approach	3	5	5	.	1	10	10	22	8	24	7	40	135
Total	3	5	5	.	1	10	13	59	16	24	7	50	193
PG&E													
Whole Building Approach	.	.	1	1	.	.	65	3	11	.	6	4	91
Systems Approach	.	3	.	.	.	1	39	2	4	5	2	28	84
Total	.	3	1	1	.	1	104	5	15	5	8	32	175
SDG&E													
Whole Building Approach	.	7	.	.	1	.	7	10	21	.	.	5	51
Systems Approach	.	4	.	.	3	.	5	8	4	.	2	1	27
Total	.	11	.	.	4	.	12	18	25	.	2	6	78
SoCalGas													
Whole Building Approach	.	.	.	.	.	2	5	7	12	.	2	.	28
Systems Approach	.	.	.	.	.	.	2	12	9	.	.	.	23
Total	.	.	.	.	.	2	7	19	21	.	2	.	51

The majority of SBD program participants in PY2004 belong to the office, retail and school building types. High participation in these segments can be attributed to the overall high volume of new construction within these same segments (Exhibit 3.4 below), but also to the good fit between these building types and the scope of the SBD program.

Note that the number of SBD participants has slightly increased in 2003 and 2004 as compared to 2002, but was still lower than in 2001 (see Chapter 6, Table 6.12). The high participation rates at the beginning of PY2001 may be due to changes in building codes and that went into effect on July 1, 2001 (and to the subsequent change in program requirements), but also to the overall conservation efforts undertaken in California prior to, and during the Summer of 2001. The decrease in participation in PY2002 is probably due to the absence of such drivers, but also to the situation of the economy in California in 2002. As the SBD program captures relatively large buildings, the increase in participation in 2003 may be correlated with the increase in the average size of new construction projects in 2003 as compared to 2002, even though the total number of market projects decreased in 2003. The increase in participation in 2004 may be correlated with the slight increase in the number of market projects that have started construction in 2004.

Exhibit 3.4
New Construction Building Segments with the Highest Number of Projects in PY2004

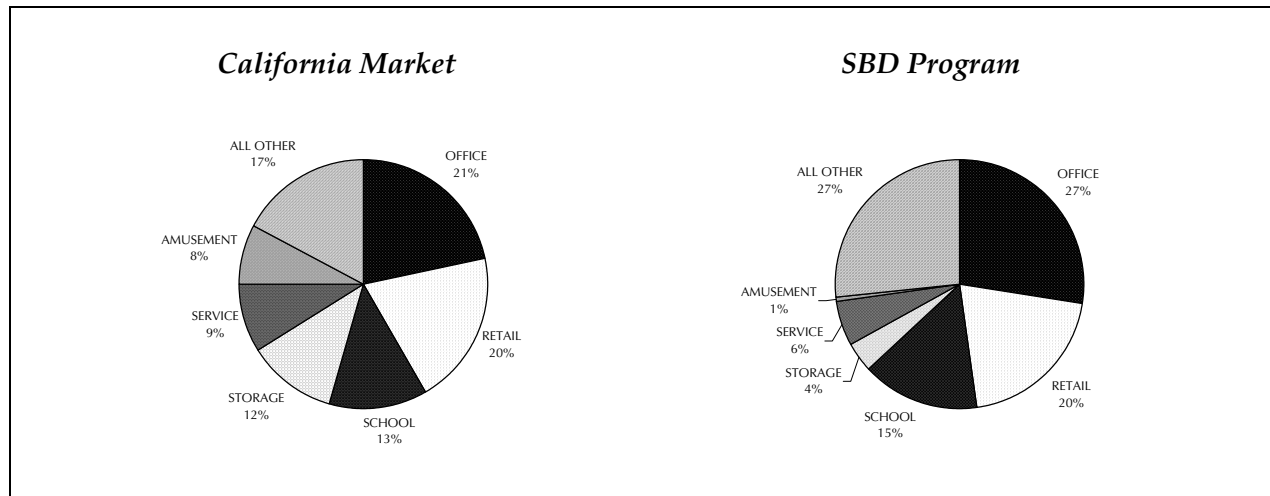


Table 3.9 Area of Nonresidential New Construction SBD Participants in PY2004 (1,000 sqft)

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	152	90	.	51	231	7,203	4,996	4,521	.	611	1,602	19,457
Systems Approach	206	484	170	.	464	2,391	2,651	1,990	1,885	140	3,085	15,046	28,511
Total	206	636	260	.	515	2,622	9,853	6,986	6,407	140	3,696	16,648	47,968
SCE													
Whole Building Approach	.	.	.	.	.	.	2,132	3,461	802	.	.	727	7,123
Systems Approach	206	337	170	.	270	2,337	799	626	734	73	2,664	3,737	11,954
Total	206	337	170	.	270	2,337	2,931	4,087	1,536	73	2,664	4,465	19,077
PG&E													
Whole Building Approach	.	.	90	.	.	.	4,547	242	1,292	.	531	347	7,048
Systems Approach	.	59	.	.	.	54	1,082	156	175	67	225	11,104	12,922
Total	.	59	90	.	.	54	5,629	397	1,467	67	756	11,451	19,970
SDG&E													
Whole Building Approach	.	152	.	.	51	.	170	751	1,164	.	9	527	2,824
Systems Approach	.	88	.	.	194	.	601	651	38	.	195	205	1,971
Total	.	240	.	.	245	.	771	1,401	1,203	.	204	732	4,795
SoCalGas													
Whole Building Approach	.	.	.	.	.	231	354	542	1,263	.	72	.	2,462
Systems Approach	.	.	.	.	.	.	169	558	938	.	.	.	1,664
Total	.	.	.	.	.	231	522	1,101	2,201	.	72	.	4,126

The majority of SBD program activity in terms of area committed in PY2004 belongs to the “other” segment (manufacturing, farming, dairies, nurseries, etc.), followed by office, retail and school. The same building types yield high estimated MWh and kWh savings, as shown in Tables 3.10 and 3.11. Similar to the number of participants into the SBD program, the committed square footage has increased in PY2003 and PY2004 as compared to 2002, but is still lower than in 2001 (see Chapter 6, Table 6.12).

**Table 3.10 Estimated Annual MWh Savings
for New Construction SBD Participants in PY2004**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	575	189	13	62	1,278	37,102	31,136	14,885	.	6,540	19,387	111,167
Systems Approach	211	717	406	.	2,969	4,952	15,636	4,326	1,517	52,759	5,545	26,828	115,866
Total	211	1,293	595	13	3,032	6,230	52,738	35,463	16,401	52,759	12,085	46,214	227,033
SCE													
Whole Building Approach	.	.	.	.	.	.	10,898	22,370	1,975	.	.	3,856	39,100
Systems Approach	211	509	406	.	2,197	4,841	2,085	897	413	52,706	3,349	17,164	84,778
Total	211	509	406	.	2,197	4,841	12,983	23,268	2,388	52,706	3,349	21,020	123,878
PG&E													
Whole Building Approach	.	.	189	13	.	.	24,904	1,171	3,504	.	6,084	517	36,382
Systems Approach	.	93	.	.	.	112	10,623	1	111	53	1,739	8,470	21,201
Total	.	93	189	13	.	112	35,527	1,172	3,616	53	7,823	8,986	57,583
SDG&E													
Whole Building Approach	.	575	.	.	62	.	624	4,213	4,815	.	27	15,014	25,330
Systems Approach	.	115	.	.	772	.	2,804	1,741	57	.	457	1,194	7,140
Total	.	690	.	.	834	.	3,427	5,954	4,873	.	484	16,208	32,470
SoCalGas													
Whole Building Approach	.	.	.	.	.	1,278	677	3,382	4,590	.	428	.	10,355
Systems Approach	.	.	.	.	.	.	125	1,687	935	.	.	.	2,747
Total	.	.	.	.	.	1,278	801	5,069	5,525	.	428	.	13,101

**Table 3.11 Estimated Annual kW Savings
for New Construction SBD Participants in PY2004**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	202	61	9	23	134	7,298	8,300	7,297	.	617	3,959	27,899
Systems Approach	71	180	83	.	310	520	2,191	1,025	454	110	1,162	3,298	9,406
Total	71	383	144	9	334	654	9,489	9,325	7,751	110	1,779	7,257	37,304
SCE													
Whole Building Approach	.	.	.	.	.	.	1,260	5,841	1,676	.	.	1,415	10,192
Systems Approach	71	127	83	.	269	502	281	358	132	99	997	1,626	4,544
Total	71	127	83	.	269	502	1,541	6,199	1,807	99	997	3,041	14,735
PG&E													
Whole Building Approach	.	.	61	9	.	.	5,466	359	1,841	.	540	91	8,366
Systems Approach	.	25	.	.	.	18	1,630	1	29	12	84	1,389	3,188
Total	.	25	61	9	.	18	7,096	360	1,870	12	624	1,480	11,554
SDG&E													
Whole Building Approach	.	202	.	.	23	.	218	1,367	1,872	.	10	2,453	6,145
Systems Approach	.	29	.	.	42	.	234	424	17	.	81	284	1,110
Total	.	231	.	.	65	.	452	1,791	1,889	.	91	2,736	7,255
SoCalGas													
Whole Building Approach	.	.	.	.	.	134	355	734	1,908	.	67	.	3,197
Systems Approach	.	.	.	.	.	.	45	242	276	.	.	.	564
Total	.	.	.	.	.	134	400	975	2,185	.	67	.	3,760

**Table 3.12 Estimated Annual Therm Savings
for New Construction SBD Participants in PY2004**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	6,031	3,648	-129	.	70,922	197,692	-10,210	184,610	.	-717	2,358,746	2,810,593
Systems Approach	.	-1,170	.	.	.	-2,033	261,803	2,050	2,968	442,599	1,950	3,635,791	4,343,958
Total	.	4,861	3,648	-129	.	68,889	459,495	-8,160	187,578	442,599	1,233	5,994,537	7,154,551
SCE													
Whole Building Approach	0
Systems Approach	0
Total	0
PG&E													
Whole Building Approach	.	.	3,648	-129	.	.	182,164	-1,570	81,026	.	.	1,354,004	1,619,143
Systems Approach	.	-788	.	.	.	-2,033	258,000	5,750	2,377	442,599	.	3,635,618	4,341,523
Total	.	-788	3,648	-129	.	-2,033	440,164	4,180	83,403	442,599	.	4,989,622	5,960,666
SDG&E													
Whole Building Approach	.	6,031	.	.	.	.	11,889	-5,797	3,675	.	149	1,004,742	1,020,689
Systems Approach	.	-382	.	.	.	.	4,220	-1,057	945	.	1,950	173	5,849
Total	.	5,649	.	.	.	.	16,109	-6,854	4,620	.	2,099	1,004,915	1,026,538
SoCalGas													
Whole Building Approach	70,922	3,639	-2,843	99,909	.	-866	.	170,761
Systems Approach	-417	-2,643	-354	.	.	.	-3,414
Total	70,922	3,222	-5,486	99,555	.	-866	.	167,347

Table 3.13 Classes of Measures Installed by New Construction SBD Participants in PY2004

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	270	36	.	.	.	.	.	.	.	.	.	.	306
Systems Approach	.	.	27	.	10	38	1	71	15	138	10	171	481
Total	270	36	27	.	10	38	1	71	15	138	10	171	787
SCE													
Whole Building Approach	39	20	.	.	.	.	.	.	.	.	.	.	59
Systems Approach	.	.	14	.	5	.	.	47	15	57	1	87	226
Total	39	20	14	.	5	.	.	47	15	57	1	87	285
PG&E													
Whole Building Approach	84	7	.	.	.	.	.	.	.	.	.	.	91
Systems Approach	.	.	11	.	2	12	1	3	.	38	3	72	142
Total	84	7	11	.	2	12	1	3	.	38	3	72	233
SDG&E													
Whole Building Approach	118	4	.	.	.	.	.	.	.	.	.	.	122
Systems Approach	.	.	1	.	1	10	.	14	.	23	5	8	62
Total	118	4	1	.	1	10	.	14	.	23	5	8	184
SoCalGas													
Whole Building Approach	29	5	.	.	.	.	.	.	.	.	.	.	34
Systems Approach	.	.	1	.	2	16	.	7	.	20	1	4	51
Total	29	5	1	.	2	16	.	7	.	20	1	4	85

The measures installed by each participant were established using the following fields from the tracking systems maintained by the IOUs: the “meas_desc” for SCE participants, the “description” for PG&E participants, and the “msr_desc” for SDG&E and SoCalGas participants. Each entry into the tracking system was then assigned to one of the measure segments presented in Table 3.13, and counted as one instance in which that particular class of measures was installed through the SBD Program. For example, each participant that selected the whole building approach counted as one instance in which the whole building approach was adopted, regardless of the number and types of measures installed.

As Table 3.13 indicates, the whole building approach, “process and other measures” (variable speed drives, gas-fired boilers, water heating) and lighting were installed most often by SBD new construction participants, while HVAC controls were installed very rarely in 2004. Note that skylights do not appear to have been installed at all in 2004, however, they may have been coded as “daylighting” measures in the SBD databases. The new “whole building and refrigeration” category contains only refrigeration and other measures installed in grocery and big box stores through the whole building “alternative delivery method”.

**Table 3.14 Estimated Annual MWh Savings by Measure Class
for New Construction SBD Participants in PY2004**

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	87,603	23,565	.	.	.	.	.	.	.	.	.	.	111,167
Systems Approach	.	.	3,376	.	1,881	389	55	1,560	343	10,090	93	98,081	115,866
Total	87,603	23,565	3,376	.	1,881	389	55	1,560	343	10,090	93	98,081	227,033
SCE													
Whole Building Approach	21,515	17,585	.	.	.	.	.	.	.	.	.	.	39,100
Systems Approach	.	.	2,903	.	736	.	.	379	343	4,932	28	75,458	84,778
Total	21,515	17,585	2,903	.	736	.	.	379	343	4,932	28	75,458	123,878
PG&E													
Whole Building Approach	33,666	2,716	.	.	.	.	.	.	.	.	.	.	36,382
Systems Approach	.	.	309	.	66	45	55	16	.	2,295	30	18,386	21,201
Total	33,666	2,716	309	.	66	45	55	16	.	2,295	30	18,386	57,583
SDG&E													
Whole Building Approach	24,188	1,142	.	.	.	.	.	.	.	.	.	.	25,330
Systems Approach	.	.	126	.	683	135	.	879	.	2,107	33	3,177	7,140
Total	24,188	1,142	126	.	683	135	.	879	.	2,107	33	3,177	32,470
SoCalGas													
Whole Building Approach	8,234	2,121	.	.	.	.	.	.	.	.	.	.	10,355
Systems Approach	.	.	39	.	396	209	.	284	.	756	2	1,060	2,747
Total	8,234	2,121	39	.	396	209	.	284	.	756	2	1,060	13,101

As shown in Table 3.14, “process and other” measures (such as variable speed drives, gas-fired boilers, water heating) account for most of the committed MWh savings in new construction, followed by whole building design, whole building and refrigeration, and lighting. Whole Building design generates the largest committed kW savings (Table 3.15), but “process and other” measures generate the largest therm savings (Table 3.16). Note that lighting, daylighting, unitary HVAC and “whole building and refrigeration” measures generate negative therm impacts.

**Table 3.15 Estimated Annual kW Savings by Measure Class
for New Construction SBD Participants in PY2004**

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	24,640	3,259	.	.	.	.	.	.	.	.	.	.	27,899
Systems Approach	.	.	1,051	.	609	204	17	502	51	2,031	38	4,904	9,406
Total	24,640	3,259	1,051	.	609	204	17	502	51	2,031	38	4,904	37,304
SCE													
Whole Building Approach	7,786	2,406	.	.	.	.	.	.	.	.	.	.	10,192
Systems Approach	.	.	868	.	216	.	.	272	51	1,102	8	2,027	4,544
Total	7,786	2,406	868	.	216	.	.	272	51	1,102	8	2,027	14,735
PG&E													
Whole Building Approach	8,018	348	.	.	.	.	.	.	.	.	.	.	8,366
Systems Approach	.	.	117	.	22	34	17	4	.	299	12	2,684	3,188
Total	8,018	348	117	.	22	34	17	4	.	299	12	2,684	11,554
SDG&E													
Whole Building Approach	5,951	194	.	.	.	.	.	.	.	.	.	.	6,145
Systems Approach	.	.	49	.	217	73	.	152	.	431	16	173	1,110
Total	5,951	194	49	.	217	73	.	152	.	431	16	173	7,255
SoCalGas													
Whole Building Approach	2,886	311	.	.	.	.	.	.	.	.	.	.	3,197
Systems Approach	.	.	16	.	155	97	.	75	.	200	2	20	564
Total	2,886	311	16	.	155	97	.	75	.	200	2	20	3,760

**Table 3.16 Estimated Annual Therm Savings by Measure Class
for New Construction SBD Participants in PY2004**

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	2,840,053	-29,460	.	.	.	.	.	.	.	.	.	.	2,810,593
Systems Approach	.	.	-343	.	.	-14	.	6,311	.	-9,549	1,076	4,346,477	4,343,958
Total	2,840,053	-29,460	-343	.	.	-14	.	6,311	.	-9,549	1,076	4,346,477	7,154,551
SCE													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0
PG&E													
Whole Building Approach	1,642,686	-23,543	.	.	.	.	.	.	.	.	.	.	1,619,143
Systems Approach	.	.	-135	.	.	.	.	-78	.	-5,575	-156	4,347,467	4,341,523
Total	1,642,686	-23,543	-135	.	.	.	.	-78	.	-5,575	-156	4,347,467	5,960,666
SDG&E													
Whole Building Approach	1,023,802	-3,113	.	.	.	.	.	.	.	.	.	.	1,020,689
Systems Approach	.	.	-51	.	.	-5	.	6,569	.	-2,038	1,215	159	5,849
Total	1,023,802	-3,113	-51	.	.	-5	.	6,569	.	-2,038	1,215	159	1,026,538
SoCalGas													
Whole Building Approach	173,565	-2,804	.	.	.	.	.	.	.	.	.	.	170,761
Systems Approach	.	.	-157	.	.	-9	.	-180	.	-1,936	17	-1,149	-3,414
Total	173,565	-2,804	-157	.	.	-9	.	-180	.	-1,936	17	-1,149	167,347

4. STATEWIDE NONRESIDENTIAL ALTERATION (R&R) TRENDS

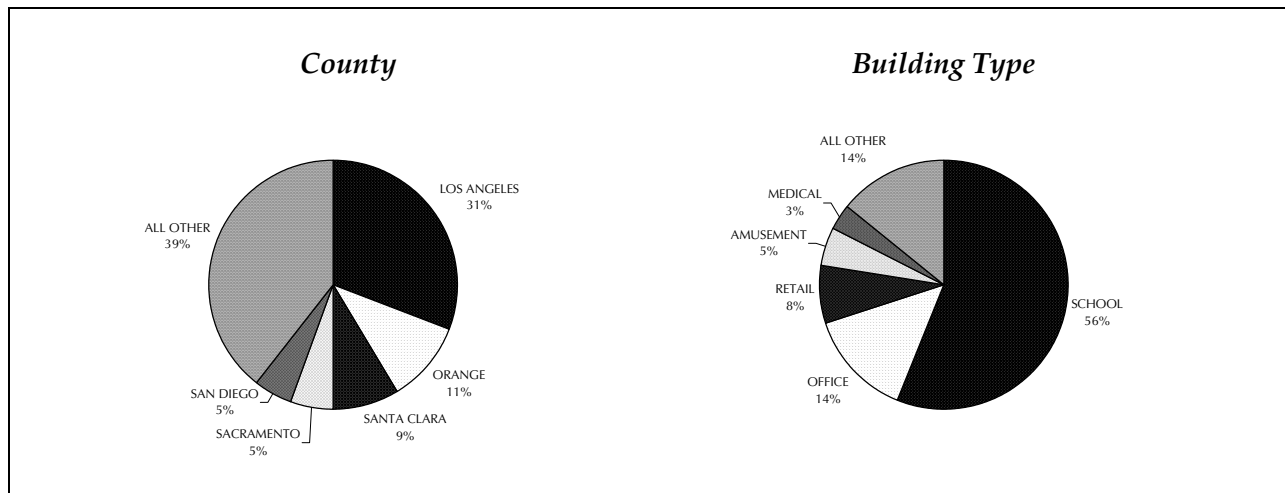
This chapter summarizes the nonresidential alterations that have occurred in PY2004 in the State of California. Similar to Chapter 2, the first section presents the total valuation and the number of project starts in the nonresidential alteration market, by county and building type (F.W. Dodge does not track square feet for alteration projects.) The second section presents the SBD program activity for first tenant improvement, renovation and remodeling projects (R&R) in PY2004.

4.1 ALTERATION (R&R) MARKET CHARACTERISTICS IN PY2004

PY2004 nonresidential alteration market activity by building segment and county is presented in the following exhibits and tables. To summarize the market activity by utility territory, project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities. SoCalGas's CIS, in conjunction with the CEC zip code-to-utility mapping was used to obtain a comprehensive list of zip codes served by SoCalGas, but not by any other IOU.

Table 4.1 summarizes the F.W. Dodge valuation for the nonresidential alteration projects that started construction during PY2004. The valuation reported by F.W. Dodge is a little more than half of the permit valuation reported by CIRB (Appendix B, Table B.1). There are some differences in the ways F.W. Dodge and CIRB report R&R projects: CIRB groups addition and alteration projects together, thus reporting a larger market segment than F.W. Dodge. CIRB also records only building-related projects, while leaving out permits for heating, HVAC, electrical, and other remodeling/renovation projects.

Exhibit 4.1
R&R Market Segments with the Highest Project Start Valuation in PY2004



Among utility territories, PG&E accounts for over one-third of the statewide project start value in PY2004, followed closely by SCE. In all four IOU territories, as well as non-IOU areas, the school segment accounts for over half of the total project start valuation.

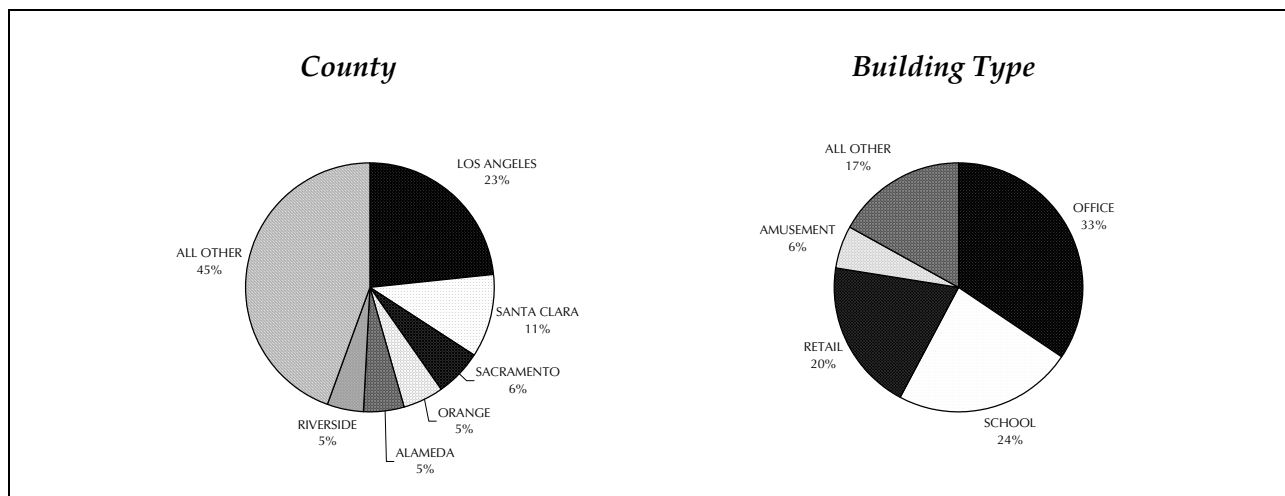
As Exhibit 4.1 shows, the counties with the most active alteration activity in terms of valuation are Los Angeles, Orange, Santa Clara, Sacramento and San Diego. There are six counties for which F.W. Dodge does not record any nonresidential alteration project starts: Alpine, Calaveras, Glenn, Modoc, Sierra and Trinity.

Among building types, school accounts for over half of the value of alteration projects that have started construction in PY2004, with office and retail following in order of importance. Government buildings and assembly (churches) account for the lowest value of alteration projects in PY2004.

Table 4.2 presents the number of nonresidential alteration projects that started construction during PY2004. Among utility territories, PG&E leads with the highest number of project starts, followed by SCE. The number of project starts in SoCalGas territory is more than double the number in SDG&E territory. Non-IOU areas have a significant number of project starts, roughly equal to the number in SDG&E and SoCalGas territories combined.

As shown in Exhibit 4.2 below, the counties with the largest number of alteration project starts are Los Angeles, Santa Clara, Sacramento, Orange, Alameda and Riverside. Among building types, the office segment is the largest in terms of alteration project starts, followed by school and retail. The fewest alteration project starts recorded by F.W. Dodge in PY2004 occur in the hotel and government segments.

Exhibit 4.2
R&R Market Segments with the Highest Number of Project Starts in PY2004



Tables 4.3 and 4.4 summarize quarterly alteration project starts by county and building type. There is some variation from quarter to quarter in the number of project starts by segment, with quarters 2 and 3 more active than quarters 1 and 4.

**Table 4.1 F.W. Dodge Valuation for Nonresidential Alteration Project Starts in PY2004
by Building Type, County and Service Territory (\$1,000)**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	6,125	10,759	763	2,879	298	1,628	43,815	11,641	75,818	1,946	776	14,423	170,871
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	.	.	.	.	.	850	5,698	.	.	.	6,548
BUTTE	468	.	.	.	.	1,400	1,846	825	3,355	.	.	4,017	11,911
CALAVERAS	.	.	.	.	.	.	.	.	.	.	.	.	0
COLUSA	.	.	.	.	.	.	.	500	759	.	.	.	1,259
CONTRA COSTA	2,935	3,000	4,989	736	.	2,433	9,002	9,269	54,814	298	8,975	.	96,451
DEL NORTE	.	.	.	.	.	.	.	.	2,274	.	.	.	2,274
EL DORADO	1,014	80	.	794	97	2,220	2,084	1,900	2,607	.	.	.	10,796
FRESNO	2,089	.	158	.	.	972	12,389	5,248	28,002	150	576	5,873	55,457
GLENN	.	.	.	.	.	.	.	.	.	.	.	.	0
HUMBOLDT	3,248	1,260	.	.	.	.	.	1,318	9,515	.	.	.	15,341
IMPERIAL	6,392	.	1,650	.	.	624	480	5,714	2,508	.	.	273	17,641
INYO	110	.	.	.	.	.	.	.	1,163	.	.	.	1,273
KERN	108	.	.	100	.	351	2,844	1,004	35,716	.	346	2,286	42,755
KINGS	.	.	.	11,442	.	750	.	75	3,061	.	709	.	16,037
LAKE	.	.	.	.	175	.	.	.	8,000	.	.	.	8,175
LASSEN	.	.	.	.	.	.	.	.	3,273	.	.	.	3,273
LOS ANGELES	51,874	3,106	3,440	3,073	66,571	8,153	138,795	76,361	792,823	2,803	4,208	57,360	1,208,567
MADERA	.	.	.	.	.	.	.	.	2,200	.	.	.	2,200
MARIN	794	.	.	.	120	425	8,608	2,083	32,680	.	.	974	45,684
MARIPOSA	.	.	.	.	.	.	.	.	3,707	.	.	.	3,707
MENDOCINO	.	.	371	.	.	750	.	.	7,456	.	.	.	8,577
MERCED	.	.	.	.	.	.	927	.	1,790	.	164	.	2,881
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	.	.	.	.	.	.	.	.	1,700	.	.	.	1,700
MONTEREY	4,593	.	.	1,200	2,057	3,937	3,905	32,126	.	111	.	.	47,929
NAPA	.	250	1,278	137	.	12,130	1,100	3,150	16,514	.	1,398	.	35,957
NEVADA	.	.	.	.	228	.	302	75	4,066	.	.	.	4,671
ORANGE	11,132	320	9,247	450	61,600	7,535	26,713	15,609	281,170	676	258	7,896	422,606
PLACER	6,930	8,000	.	.	120	3,196	7,630	4,048	4,732	87	1,030	773	36,546
PLUMAS	.	.	.	.	.	.	.	1,239	.	.	.	.	1,239
RIVERSIDE	9,042	478	577	278	.	3,441	18,559	12,753	71,160	450	2,870	5,620	125,228
SACRAMENTO	5,514	1,050	1,975	.	.	39,338	58,483	19,932	67,085	3,244	875	14,274	211,770
SAN BENITO	.	.	.	.	.	.	267	.	.	.	.	.	267
SAN BERNARDINO	2,852	.	1,331	4,116	76	3,702	6,753	14,309	63,754	2,590	7,435	5,580	112,498
SAN DIEGO	12,815	5,500	4,731	3,169	.	6,970	3,756	9,551	109,640	2,285	1,668	37,432	197,517
SAN FRANCISCO	11,299	.	10,427	.	400	9,453	19,169	9,651	11,868	.	1,042	20,584	93,893
SAN JOAQUIN	5,836	297	608	434	.	2,635	7,490	5,789	41,111	.	151	110	64,461
SAN LUIS OBISPO	1,559	183	729	1,186	200	742	2,714	2,135	3,750	.	341	566	14,105
SAN MATEO	2,745	90	732	373	1,000	450	19,602	12,620	73,403	.	275	524	111,814
SANTA BARBARA	2,555	368	1,000	.	900	863	7,266	2,208	10,200	720	539	3,062	29,681
SANTA CLARA	32,779	1,650	2,865	2,014	588	7,706	84,922	32,633	126,398	3,546	8,617	33,255	336,973
SANTA CRUZ	.	.	225	.	.	.	2,178	3,309	6,654	391	720	129	13,606
SHASTA	402	.	.	.	.	293	200	900	5,602	.	.	.	7,397
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	444	.	.	.	.	.	.	.	1,297	.	.	.	1,741
SOLANO	377	443	.	.	.	3,310	6,556	2,488	30,678	.	1,055	2,672	47,579
SONOMA	1,406	450	.	.	.	165	9,601	5,735	24,704	.	6,881	1,588	50,530
STANISLAUS	.	.	.	.	.	1,515	10,186	4,549	22,398	.	2,300	.	40,948
SUTTER	.	.	.	59	.	450	1,796	429	2,285	.	.	579	5,598
TEHAMA	.	.	.	.	.	.	.	.	6,813	.	.	.	6,813
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	.	75	2,000	.	.	1,624	1,716	2,693	13,923	720	406	469	23,626
TUOLUMNE	400	.	.	.	.	.	.	.	433	.	.	277	1,110
VENTURA	7,217	435	243	.	1,868	1,353	13,612	11,177	71,566	326	870	5,164	113,831
YOLO	684	.	.	214	.	75	3,690	2,180	26,427	500	750	800	35,320
YUBA	.	.	.	.	.	.	100	.	.	.	.	.	100
CALIFORNIA	195,738	37,794	49,339	31,454	135,441	128,709	540,327	298,616	2,208,676	20,732	55,346	226,560	3,928,732
UTILITY													
SCE	49,653	2,714	10,892	6,093	129,158	18,909	98,558	90,472	770,885	4,103	10,816	66,942	1,259,195
PG&E	84,262	26,307	26,145	19,032	4,017	55,624	246,102	123,478	686,396	7,393	36,426	83,787	1,398,969
SDG&E	13,414	5,500	4,731	3,169	.	7,770	3,508	9,551	131,375	2,724	1,668	37,432	220,842
SoCalGas	36,632	385	4,850	1,824	1,781	2,980	84,512	32,469	266,030	1,403	2,371	6,625	441,862
Non-IOU	11,777	2,888	2,721	1,336	485	43,426	107,647	42,646	353,990	5,109	4,065	31,774	607,864

**Table 4.2 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2004
by Building Type, County and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
COUNTY													
ALAMEDA	7	9	4	3	2	9	82	39	35	6	4	10	210
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	.	.	.	.	.	1	5	.	.	.	6
BUTTE	3	.	.	.	.	2	7	6	5	.	.	4	27
CALAVERAS	.	.	.	.	.	.	.	.	.	.	.	.	0
COLUSA	.	.	.	.	.	.	.	1	2	.	.	.	3
CONTRA COSTA	3	1	1	1	.	5	43	25	16	2	4	.	101
DEL NORTE	.	.	.	.	.	.	.	.	3	.	.	.	3
EL DORADO	2	1	.	1	1	3	10	13	3	.	.	.	34
FRESNO	2	.	1	.	.	4	38	17	17	1	4	2	86
GLENN	.	.	.	.	.	.	.	.	.	.	.	.	0
HUMBOLDT	1	1	.	.	.	.	.	1	11	.	.	.	14
IMPERIAL	2	.	2	.	.	2	2	10	1	.	.	1	20
INYO	1	.	.	.	.	.	.	.	2	.	.	.	3
KERN	1	.	.	1	.	3	11	5	14	.	3	7	45
KINGS	.	.	.	1	.	1	.	1	3	.	2	.	8
LAKE	.	.	.	.	1	.	.	.	2	.	.	.	3
LASSEN	.	.	.	.	.	.	.	.	2	.	.	.	2
LOS ANGELES	51	9	3	4	5	30	314	173	303	9	16	25	942
MADERA	.	.	.	.	.	.	.	.	2	.	.	.	2
MARIN	3	.	.	.	1	2	21	9	19	.	.	3	58
MARIPOSA	.	.	.	.	.	.	.	.	4	.	.	.	4
MENDOCINO	.	.	1	.	.	1	.	.	5	.	.	.	7
MERCED	.	.	.	.	.	.	4	.	2	.	1	.	7
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	.	.	.	.	.	.	.	.	1	.	.	.	1
MONTEREY	2	.	.	.	1	5	18	9	13	.	1	.	49
NAPA	.	1	1	1	.	2	6	4	4	.	2	.	21
NEVADA	.	.	.	.	2	.	1	1	3	.	.	.	7
ORANGE	16	1	3	2	2	12	58	21	88	2	2	11	218
PLACER	5	1	.	.	1	13	40	27	5	1	3	4	100
PLUMAS	.	.	.	.	.	.	1	.	.	.	.	.	1
RIVERSIDE	15	2	1	1	.	21	60	50	22	3	5	13	193
SACRAMENTO	10	3	1	.	.	24	106	54	35	4	4	5	246
SAN BENITO	.	.	.	.	.	.	1	.	.	.	.	.	1
SAN BERNARDINO	10	.	1	4	1	6	29	21	21	4	7	10	114
SAN DIEGO	18	1	3	5	.	6	17	27	52	2	6	14	151
SAN FRANCISCO	13	.	5	.	1	6	33	11	17	.	1	4	91
SAN JOAQUIN	6	2	1	1	.	5	24	12	11	.	1	1	64
SAN LUIS OBISPO	3	2	3	1	1	6	18	17	1	.	2	1	55
SAN MATEO	7	1	2	1	1	2	63	19	23	.	2	4	125
SANTA BARBARA	4	1	1	.	2	5	20	9	10	2	2	4	60
SANTA CLARA	21	6	2	2	3	15	199	98	62	6	13	17	444
SANTA CRUZ	.	.	1	.	.	.	8	7	11	2	1	1	31
SHASTA	3	.	.	.	.	1	2	4	9	.	.	.	19
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	1	.	.	.	.	.	.	.	2	.	.	.	3
SOLANO	2	2	.	.	.	3	22	6	9	.	3	3	50
SONOMA	6	2	.	.	.	1	28	13	16	.	5	4	75
STANISLAUS	.	.	.	.	.	5	38	19	10	.	3	.	75
SUTTER	.	.	.	1	.	1	4	4	3	.	.	1	14
TEHAMA	.	.	.	.	.	.	.	.	6	.	.	.	6
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	.	1	1	.	.	4	8	12	12	1	3	3	45
TUOLUMNE	1	.	.	.	.	.	.	.	1	.	.	.	3
VENTURA	12	2	1	.	4	5	44	43	34	3	5	13	166
YOLO	2	.	.	1	.	1	10	5	16	1	2	1	39
YUBA	.	.	.	.	.	.	1	.	.	.	.	.	1
CALIFORNIA	233	49	39	31	29	211	1,391	794	953	49	107	167	4,053
UTILITY													
SCE	74	9	6	10	11	62	270	185	272	11	21	60	991
PG&E	88	27	24	13	12	93	686	358	361	19	58	61	1,800
SDG&E	21	1	3	5	.	7	15	27	64	5	6	14	168
SoCalGas	21	2	3	1	2	13	170	99	118	4	8	8	449
Non-IOU	29	10	3	2	4	36	250	125	138	10	14	24	645

Table 4.3 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2004 by Quarter, County and Service Territory

	Q1, 2004	Q2, 2004	Q3, 2004	Q4, 2004	2004 Total
COUNTY					
ALAMEDA	53	66	58	33	210
ALPINE	0	0	0	0	0
AMADOR	0	5	0	1	6
BUTTE	7	14	6	0	27
CALAVERAS	0	0	0	0	0
COLUSA	1	2	0	0	3
CONTRA COSTA	25	30	24	22	101
DEL NORTE	0	2	0	1	3
EL DORADO	10	9	12	3	34
FRESNO	26	24	25	11	86
GLENN	0	0	0	0	0
HUMBOLDT	2	7	3	2	14
IMPERIAL	1	7	5	7	20
INYO	1	1	0	1	3
KERN	6	11	19	9	45
KINGS	3	2	2	1	8
LAKE	0	2	1	0	3
LASSEN	1	0	1	0	2
LOS ANGELES	189	254	254	245	942
MADERA	0	2	0	0	2
MARIN	4	28	18	8	58
MARIPOSA	0	3	1	0	4
MENDOCINO	1	4	1	1	7
MERCED	1	4	2	0	7
MODOC	0	0	0	0	0
MONO	0	1	0	0	1
MONTEREY	13	11	15	10	49
NAPA	6	6	4	5	21
NEVADA	0	2	4	1	7
ORANGE	49	71	65	33	218
PLACER	22	29	21	28	100
PLUMAS	1	0	0	0	1
RIVERSIDE	52	46	67	28	193
SACRAMENTO	66	71	69	40	246
SAN BENITO	0	1	0	0	1
SAN BERNARDINO	21	38	35	20	114
SAN DIEGO	29	66	33	23	151
SAN FRANCISCO	35	13	24	19	91
SAN JOAQUIN	26	18	14	6	64
SAN LUIS OBISPO	17	14	16	8	55
SAN MATEO	27	36	33	29	125
SANTA BARBARA	12	17	19	12	60
SANTA CLARA	92	140	137	75	444
SANTA CRUZ	6	15	8	2	31
SHASTA	6	11	2	0	19
SIERRA	0	0	0	0	0
SISKIYOU	0	3	0	0	3
SOLANO	9	17	10	14	50
SONOMA	16	18	21	20	75
STANISLAUS	29	18	12	16	75
SUTTER	8	2	3	1	14
TEHAMA	2	2	2	0	6
TRINITY	0	0	0	0	0
TULARE	9	12	12	12	45
TUOLUMNE	0	3	0	0	3
VENTURA	28	53	48	37	166
YOLO	6	12	12	9	39
YUBA	0	1	0	0	1
CALIFORNIA	918	1,224	1,118	793	4,053
UTILITY					
SCE	229	278	287	197	991
PG&E	441	562	474	323	1,800
SDG&E	30	69	43	26	168
SoCalGas	63	120	120	146	449
Non-IOU	155	195	194	101	645

**Table 4.4 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2004
by Quarter, Building Type and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Q1, 2004	62	12	5	5	9	47	347	194	172	7	26	32	918
Q2, 2004	79	14	15	5	5	54	315	204	444	17	29	43	1,224
Q3, 2004	56	14	12	9	11	69	397	230	212	12	34	62	1,118
Q4, 2004	36	9	7	12	4	41	332	166	125	13	18	30	793
2004 Total	233	49	39	31	29	211	1,391	794	953	49	107	167	4,053
SCE													
Q1, 2004	19	3	2	1	1	17	76	42	51	.	6	11	229
Q2, 2004	23	.	2	2	3	16	70	37	104	4	6	11	278
Q3, 2004	22	4	1	2	4	16	72	63	67	4	6	26	287
Q4, 2004	10	2	1	5	3	13	52	43	50	3	3	12	197
2004 Total	74	9	6	10	11	62	270	185	272	11	21	60	991
PG&E													
Q1, 2004	24	6	3	3	7	22	178	105	58	5	15	15	441
Q2, 2004	33	8	8	2	1	24	154	98	194	9	15	16	562
Q3, 2004	16	7	9	5	4	31	198	92	66	4	20	22	474
Q4, 2004	15	6	4	3	.	16	156	63	43	1	8	8	323
2004 Total	88	27	24	13	12	93	686	358	361	19	58	61	1,800
SDG&E													
Q1, 2004	6	.	.	1	.	.	2	7	11	.	.	3	30
Q2, 2004	7	1	2	.	.	1	7	13	29	1	4	4	69
Q3, 2004	4	.	1	.	.	4	3	3	20	1	2	5	43
Q4, 2004	4	.	.	4	.	2	3	4	4	3	.	2	26
2004 Total	21	1	3	5	0	7	15	27	64	5	6	14	168
SoCalGas													
Q1, 2004	4	.	.	.	.	2	14	11	29	1	1	1	63
Q2, 2004	9	.	2	.	.	3	29	24	50	1	.	2	120
Q3, 2004	5	1	1	1	1	4	52	28	22	.	3	2	120
Q4, 2004	3	1	.	.	1	4	75	36	17	2	4	3	146
2004 Total	21	2	3	1	2	13	170	99	118	4	8	8	449
Non-IOU													
Q1, 2004	9	3	.	.	1	6	77	29	23	1	4	2	155
Q2, 2004	7	5	1	1	1	10	55	32	67	2	4	10	195
Q3, 2004	9	2	0	1	2	14	72	44	37	3	3	7	194
Q4, 2004	4	0	2	.	0	6	46	20	11	4	3	5	101
2004 Total	29	10	3	2	4	36	250	125	138	10	14	24	645

4.2 SBD R&R PROGRAM PARTICIPATION IN PY2004

SBD program activity for nonresidential customers that have a first tenant improvement/renovation/remodel project (R&R customers), and for whom the IOUs have committed funds in PY2004, is summarized below. Program commitment indicates that the customer has filed an application, that the utility has reviewed it and found that it fits within the scope of the SBD program, that an agreement was signed between the utility and the customer, detailing the conditions of participation in the program, and that the application hasn't been subsequently cancelled. Program commitment was established using the following dates from the tracking systems maintained by the IOUs: the "coupon issue date" for SCE participants, the "acceptance date" for PG&E participants, and the "sign date" for SDG&E and SoCalGas participants.

Table 4.5 presents the number of nonresidential R&R participants to the SBD program for which funds were committed in PY2004.

Table 4.6 shows the number of square feet of R&R construction committed in PY2004.

Tables 4.7-4.9 summarize the estimated annual MWh, kW and therm savings attributable to R&R measures committed in PY2004.

Table 4.10 presents the frequency with which classes of measures were installed in R&R SBD projects committed in PY2004. A glossary of measure classes is presented in Appendix D.

Tables 4.11-4.13 show the estimated annual MWh, kW and therm savings by measure class, for R&R projects committed in PY2004.

Table 4.5 Number of Nonresidential R&R SBD Participants in PY2004

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	1	.	.	.	.	19	6	3	.	.	6	35
Systems Approach	2	.	.	.	.	.	26	7	11	3	.	31	80
Total	2	1	.	.	.	.	45	13	14	3	.	37	115
SCE													
Whole Building Approach	.	.	.	.	.	.	2	4	.	.	.	.	6
Systems Approach	2	.	.	.	.	.	3	3	3	.	.	18	29
Total	2	.	.	.	.	.	5	7	3	.	.	18	35
PG&E													
Whole Building Approach	.	1	.	.	.	.	15	2	1	.	.	4	23
Systems Approach	.	.	.	.	.	.	21	2	3	3	.	11	40
Total	.	1	.	.	.	.	36	4	4	3	.	15	63
SDG&E													
Whole Building Approach	.	.	.	.	.	.	2	.	2	.	.	2	6
Systems Approach	.	.	.	.	.	.	2	1	2	.	.	2	7
Total	.	.	.	.	.	.	4	1	4	.	.	4	13
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	1	3	.	.	.	4
Total	.	.	.	.	.	.	.	1	3	.	.	.	4

The number of R&R participants is only one-quarter of the number of new construction SBD participants (Table 3.8). The office, school and retail building types are the largest segments participating in the program, which reflects the high number of alteration projects reported by F.W. Dodge for these building segments (Exhibit 4.3 below). Note that the “other” segment, which includes manufacturing, nurseries, dairy farms, etc. also had significant participation in PY2004. R&R participants in PY2004 do not include any government buildings, possibly due to differences between the SBD program requirements and FEMP regulations. There were also no SBD R&R participants in the education (museums, libraries), hotel, medical and storage segments in PY2004.

Exhibit 4.3
R&R Building Segments with the Highest Number of Projects in PY2004

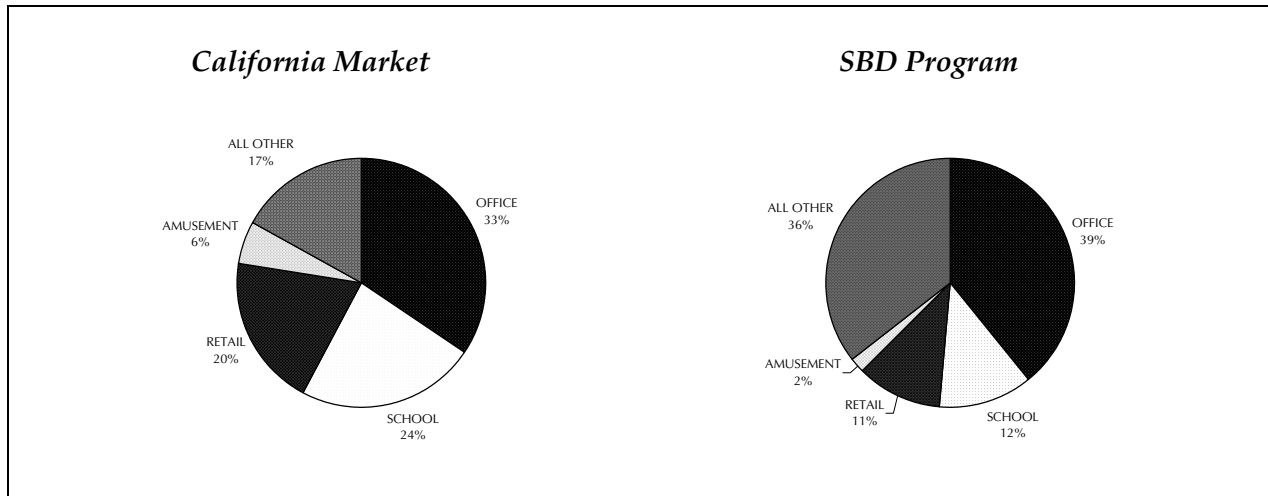


Table 4.6 Area for Nonresidential R&R SBD Participants in PY2004 (1,000 sqft)

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	109	.	.	.	.	2,357	419	337	.	.	815	4,037
Systems Approach	1,300	.	.	.	.	.	1,120	356	547	15	.	2,916	6,254
Total	1,300	109	.	.	.	.	3,477	775	884	15	.	3,731	10,291
SCE													
Whole Building Approach	.	.	.	.	.	.	139	184	.	.	.	.	323
Systems Approach	1,300	.	.	.	.	.	487	148	315	.	.	2,287	4,536
Total	1,300	.	.	.	.	.	626	332	315	.	.	2,287	4,859
PG&E													
Whole Building Approach	.	109	.	.	.	.	2,203	235	285	.	.	406	3,238
Systems Approach	.	.	.	.	.	.	574	141	64	15	.	596	1,390
Total	.	109	.	.	.	.	2,777	375	349	15	.	1,002	4,628
SDG&E													
Whole Building Approach	.	.	.	.	.	.	16	.	52	.	.	409	476
Systems Approach	.	.	.	.	.	.	59	20	71	.	.	33	183
Total	.	.	.	.	.	.	75	20	123	.	.	442	659
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	48	97	.	.	.	145
Total	.	.	.	.	.	.	.	48	97	.	.	.	145

The majority of SBD R&R program activity in terms of area committed in PY2004 belongs to the office, amusement, school and retail building types, although industrial projects (captured under the “other” segment) also account for large square footage. With the exception of the amusement segment, the same trend holds for estimated MWh and kW savings, as shown in Tables 4.7 and 4.8.

Table 4.7 Estimated Annual MWh Savings for R&R SBD Participants in PY2004

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	440	.	.	.	.	6,244	1,308	501	.	.	3,668	12,161
Systems Approach	337	.	.	.	.	.	6,259	1,019	282	826	.	14,365	23,088
Total	337	440	.	.	.	.	12,503	2,327	783	826	.	18,033	35,248
SCE													
Whole Building Approach	.	.	.	.	.	.	423	823	.	.	.	.	1,246
Systems Approach	337	.	.	.	.	.	617	841	42	.	.	10,574	12,411
Total	337	.	.	.	.	.	1,040	1,664	42	.	.	10,574	13,657
PG&E													
Whole Building Approach	.	440	.	.	.	.	5,753	485	289	.	.	1,358	8,325
Systems Approach	.	.	.	.	.	.	5,550	136	113	826	.	3,088	9,713
Total	.	440	.	.	.	.	11,303	621	402	826	.	4,446	18,038
SDG&E													
Whole Building Approach	.	.	.	.	.	.	68	.	212	.	.	2,310	2,590
Systems Approach	.	.	.	.	.	.	92	-65	23	.	.	703	752
Total	.	.	.	.	.	.	160	-65	235	.	.	3,012	3,342
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	107	105	.	.	.	212
Total	.	.	.	.	.	.	.	107	105	.	.	.	212

Table 4.8 Estimated Annual kW Savings for R&R SBD Participants in PY2004

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	147	.	.	.	.	926	312	410	.	.	603	2,398
Systems Approach	59	.	.	.	.	.	970	381	82	24	.	2,390	3,905
Total	59	147	.	.	.	.	1,896	693	492	24	.	2,993	6,302
SCE													
Whole Building Approach	.	.	.	.	.	.	51	165	.	.	.	.	216
Systems Approach	59	.	.	.	.	.	174	309	25	.	.	1,755	2,322
Total	59	.	.	.	.	.	225	474	25	.	.	1,755	2,538
PG&E													
Whole Building Approach	.	147	.	.	.	.	839	147	299	.	.	255	1,687
Systems Approach	.	.	.	.	.	.	767	58	34	24	.	556	1,438
Total	.	147	.	.	.	.	1,605	205	334	24	.	811	3,126
SDG&E													
Whole Building Approach	.	.	.	.	.	.	36	.	110	.	.	348	494
Systems Approach	.	.	.	.	.	.	30	4	12	.	.	78	124
Total	.	.	.	.	.	.	65	4	123	.	.	426	618
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	10	10	.	.	.	20
Total	.	.	.	.	.	.	.	10	10	.	.	.	20

Table 4.9 Estimated Annual therm Savings for R&R SBD Participants in PY2004

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	.	-2,108	.	.	.	.	-20,299	-372	-279	.	.	30,475	7,417
Systems Approach	-883	34,214	999	.	.	55,955	90,285
Total	.	-2,108	.	.	.	.	-21,182	33,842	720	.	.	86,430	97,702
SCE													
Whole Building Approach	0
Systems Approach	0	.	.	.	.	.	.	.	.	.	.	.	0
Total	0	.	.	.	.	.	.	.	.	.	.	.	0
PG&E													
Whole Building Approach	.	-2,108	.	.	.	.	-20,967	-372	.	.	.	4,370	-19,077
Systems Approach	-763	.	-539	.	.	-35	-1,337
Total	.	-2,108	.	.	.	.	-21,730	-372	-539	.	.	4,335	-20,414
SDG&E													
Whole Building Approach	668	.	-279	.	.	26,105	26,494
Systems Approach	-120	34,963	-66	.	.	55,990	90,767
Total	548	34,963	-345	.	.	82,095	117,261
SoCalGas													
Whole Building Approach	0
Systems Approach	-749	1,604	.	.	.	855
Total	-749	1,604	.	.	.	855

Table 4.10 Classes of Measures Installed by R&R SBD Participants in PY2004

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	33	10	.	.	.	.	.	.	.	.	.	.	43
Systems Approach	.	.	7	.	2	9	.	20	2	45	.	43	128
Total	33	10	7	.	2	9	.	20	2	45	.	43	171
SCE													
Whole Building Approach	1	5	.	.	.	.	.	.	.	.	.	.	6
Systems Approach	.	.	4	.	2	.	.	12	2	17	.	16	53
Total	1	5	4	.	2	.	.	12	2	17	.	16	59
PG&E													
Whole Building Approach	18	5	.	.	.	.	.	.	.	.	.	.	23
Systems Approach	.	.	2	.	.	5	.	.	.	21	.	23	51
Total	18	5	2	.	.	5	.	.	.	21	.	23	74
SDG&E													
Whole Building Approach	14	.	.	.	.	.	.	.	.	.	.	.	14
Systems Approach	.	.	1	.	.	4	.	3	.	4	.	3	15
Total	14	.	1	.	.	4	.	3	.	4	.	3	29
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	5	.	3	.	1	9
Total	.	.	.	.	.	.	.	5	.	3	.	1	9

Similar to new construction SBD participants, the measures installed by each participant were established using the following fields from the tracking systems maintained by the IOUs: the “meas_desc” for SCE participants, the “description” for PG&E participants, and the “msr_desc” for SDG&E and SoCalGas participants. Each entry into the tracking system was then assigned to one of the measure segments presented in Table 4.10, and counted as one instance in which that particular class of measures was installed through the SBD Program. For example, each participant that selected the whole building approach counted as one instance in which the whole building approach was adopted, regardless of the number and types of measures installed.

As Table 4.10 indicates, R&R participants installed lighting measures most often, followed by “process and other” (variable speed drives, gas-fired boilers, water heating), the whole building approach and “other HVAC measures” (motors, VSDs). Chillers and motors were installed very rarely, and HVAC controls and envelope measures were not installed at all in PY2004. Note that skylights do not appear to have been installed either, however, they may have been coded as “daylighting” measures in the SBD participation databases. Again, refrigeration and other measures installed in grocery and big box stores through the whole building “alternative delivery method” were reported under the new “whole building and refrigeration” segment.

Table 4.11 Estimated Annual MWh Savings by Measure Class for R&R SBD Participants in PY2004

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	9,266	2,894	.	.	.	.	.	.	.	.	.	.	12,161
Systems Approach	.	.	1,158	.	272	26	.	340	14	3,757	.	17,521	23,088
Total	9,266	2,894	1,158	.	272	26	.	340	14	3,757	.	17,521	35,248
SCE													
Whole Building Approach	180	1,066	.	.	.	.	.	.	.	.	.	.	1,246
Systems Approach	.	.	942	.	272	.	.	264	14	3,143	.	7,777	12,411
Total	180	1,066	942	.	272	.	.	264	14	3,143	.	7,777	13,657
PG&E													
Whole Building Approach	6,497	1,828	.	.	.	.	.	.	.	.	.	.	8,325
Systems Approach	.	.	215	.	.	21	.	.	.	469	.	9,008	9,713
Total	6,497	1,828	215	.	.	21	.	.	.	469	.	9,008	18,038
SDG&E													
Whole Building Approach	2,590	.	.	.	.	.	.	.	.	.	.	.	2,590
Systems Approach	.	.	2	.	.	5	.	9	.	107	.	629	752
Total	2,590	.	2	.	.	5	.	9	.	107	.	629	3,342
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	67	.	38	.	107	212
Total	.	.	.	.	.	.	.	67	.	38	.	107	212

Tables 4.11 and 4.12 indicate that “process and other” measures, whole building design, lighting, and “whole building and refrigeration” account for the highest estimated MWh and kW savings in the R&R SBD program in PY2004. The largest therm savings are generated by the “process and other” and Whole Building Design measures, as shown in Table 4.13. Again, lighting , daylighting and “whole building and refrigeration” measures generate negative therm savings.

Table 4.12 Estimated Annual kW Savings by Measure Class for R&R SBD Participants in PY2004

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	2,041	357	.	.	.	.	.	.	.	.	.	.	2,398
Systems Approach	.	.	375	.	119	21	.	79	3	925	.	2,382	3,905
Total	2,041	357	375	.	119	21	.	79	3	925	.	2,382	6,302
SCE													
Whole Building Approach	49	167	.	.	.	.	.	.	.	.	.	.	216
Systems Approach	.	.	264	.	119	.	.	74	3	734	.	1,129	2,322
Total	49	167	264	.	119	.	.	74	3	734	.	1,129	2,538
PG&E													
Whole Building Approach	1,497	190	.	.	.	.	.	.	.	.	.	.	1,687
Systems Approach	.	.	111	.	.	16	.	.	.	149	.	1,163	1,438
Total	1,497	190	111	.	.	16	.	.	.	149	.	1,163	3,126
SDG&E													
Whole Building Approach	494	.	.	.	.	.	.	.	.	.	.	.	494
Systems Approach	.	.	1	.	.	6	.	2	.	35	.	80	124
Total	494	.	1	.	.	6	.	2	.	35	.	80	618
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	3	.	7	.	10	20
Total	.	.	.	.	.	.	.	3	.	7	.	10	20

Table 4.13 Estimated Annual therm Savings by Measure Class for R&R SBD Participants in PY2004

	WHOLE BUILDING	WB + REFRIGERATION	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC UNITARY	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	PROCESS + OTHER	TOTAL
CALIFORNIA													
Whole Building Approach	35,753	-28,336	.	.	.	.	.	.	.	.	.	.	7,417
Systems Approach	.	.	-4	.	.	.	.	1,682	.	-1,598	.	90,205	90,285
Total	35,753	-28,336	-4	.	.	.	.	1,682	.	-1,598	.	90,205	97,702
SCE													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0
PG&E													
Whole Building Approach	9,259	-28,336	.	.	.	.	.	.	.	.	.	.	-19,077
Systems Approach	.	.	.	.	.	.	.	.	.	-1,337	.	.	-1,337
Total	9,259	-28,336	.	.	.	.	.	.	.	-1,337	.	.	-20,414
SDG&E													
Whole Building Approach	26,494	.	.	.	.	.	.	.	.	.	.	.	26,494
Systems Approach	.	.	-4	.	.	.	.	-1	.	-182	.	90,954	90,767
Total	26,494	.	-4	.	.	.	.	-1	.	-182	.	90,954	117,261
SoCalGas													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	1,683	.	-79	.	-749	855
Total	.	.	.	.	.	.	.	1,683	.	-79	.	-749	855

5. SBD PROGRAM PENETRATION INTO THE NRNC MARKET IN PY2004

This chapter presents SBD program penetration into the NRNC market statewide and by utility territory, in PY2004.

Program penetration for new construction participants was evaluated based on both construction area (square feet) and number of projects. As the area of alteration projects is not tracked by F.W. Dodge, program penetration for R&R participants was evaluated only based on number of projects.

When summarizing market activity by utility territory, project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities. SoCalGas's CIS, in conjunction with the CEC zip code-to-utility mapping was used to obtain a comprehensive list of zip codes served by SoCalGas, but not by any other IOU.

Table 5.1 presents the statewide SBD program penetration.

Table 5.2 presents SBD program penetration in the SCE service territory.

Table 5.3 shows SBD program penetration in the PG&E service territory.

Table 5.4 summarizes SBD program penetration in the SDG&E service territory.

Table 5.5 shows SBD program penetration in the SoCalGas service territory.

In terms of square feet committed, the statewide new construction market penetration of the SBD program is 39.7%. This number is lower than in individual utility territories due to the fact that non-IOU areas are included in the statewide market. If only the IOU territories are considered, program penetration by square footage is 46.7%. SBD committed square feet account for 43.2% market penetration in the SCE territory; 49.3% penetration in the PG&E territory; 48.1% penetration in the SDG&E territory; and 50.5% penetration in the SoCalGas territory.

In terms of number of projects committed, the statewide new construction market penetration of the SBD program is 12.9%. In the four IOU service territories, program penetration by number of projects is 15.5%. SBD committed projects account for 17.8% market penetration in the SCE territory; 11.0% penetration in the PG&E territory; 27.8% penetration in the SDG&E territory; and 20.6% penetration in the SoCalGas territory.

Note that SBD program penetration by number of projects is lower than penetration by square footage, indicating that the SBD program is reaching relatively large buildings.

Among R&R participants, the statewide market penetration of the SBD program is 2.8%. In the four IOU service territories, program penetration by number of projects is 3.4%. SBD committed projects account for 3.5% market penetration in the SCE territory; 3.5% penetration in the PG&E territory; 7.7% penetration in the SDG&E territory; and 0.9% penetration in SoCalGas territory.

Due to the higher number of R&R projects selecting the systems approach, SBD program penetration is consistently higher for these projects than for those selecting the whole building approach. SBD program penetration is higher for new construction projects selecting the whole building approach than for those selecting the systems approach in all service territories except SCE (where the number of projects selecting the systems approach is again much higher than those selecting the whole building approach). Significant opportunities remain for increased program penetration into the market, through sustained networking with the most active designers (Chapter 7) and with building officials.

Table 5.1 Statewide SBD Program Penetration in PY2004

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2004 QTR 1-4	F. W. Dodge	12.567	120.86		3,863	
		SBD Whole Building	-	19.46	16.1%	228	5.9%
		SBD Systems Approach	-	28.51	23.6%	269	7.0%
		SBD Total	-	47.97	39.7%	497	12.9%
Alterations (R&R and TI)	2004 QTR 1-4	F. W. Dodge	3.929	-		4,053	
		SBD Whole Building	-	4.04	-	35	0.9%
		SBD Systems Approach	-	6.25	-	80	2.0%
		SBD Total	-	10.29	-	115	2.8%

Table 5.2 SBD Program Penetration in the SCE Service Territory in PY2004

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2004 QTR 1-4	F. W. Dodge	3.685	44.14		1,086	
		SBD Whole Building	-	7.12	16.1%	58	5.3%
		SBD Systems Approach	-	11.95	27.1%	135	12.4%
		SBD Total	-	19.08	43.2%	193	17.8%
Alterations (R&R and TI)	2004 QTR 1-4	F. W. Dodge	1.259	-		991	-
		SBD Whole Building	-	0.32	-	6	0.0%
		SBD Systems Approach	-	4.54	-	29	2.9%
		SBD Total	-	4.86	-	35	3.5%

Table 5.3 SBD Program Penetration in the PG&E Service Territory in PY2004

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2004 QTR 1-4	F. W. Dodge	4.902	40.50		1,596	
		SBD Whole Building	-	7.05	17.4%	91	5.7%
		SBD Systems Approach	-	12.92	31.9%	84	5.3%
		SBD Total	-	19.97	49.3%	175	11.0%
Alterations (R&R and TI)	2004 QTR 1-4	F. W. Dodge	1.399	-		1,800	
		SBD Whole Building	-	3.24	-	23	1.3%
		SBD Systems Approach	-	1.39	-	40	2.2%
		SBD Total	-	4.63	-	63	3.5%

Table 5.4 SBD Program Penetration in the SDG&E Service Territory in PY2004

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2004 QTR 1-4	F. W. Dodge	1.037	9.97		281	
		SBD Whole Building	-	2.82	28.3%	51	18.1%
		SBD Systems Approach	-	1.97	19.8%	27	9.6%
		SBD Total	-	4.80	48.1%	78	27.8%
Alterations (R&R and TI)	2004 QTR 1-4	F. W. Dodge	0.221	-		168	
		SBD Whole Building	-	0.48	-	6	3.6%
		SBD Systems Approach	-	0.18	-	7	4.2%
		SBD Total	-	0.66	-	13	7.7%

Table 5.5 SBD Program Penetration in the SoCalGas Service Territory in PY2004

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2004 QTR 1-4	F. W. Dodge	0.998	8.18		247	
		SBD Whole Building	-	2.46	30.1%	28	11.3%
		SBD Systems Approach	-	1.66	20.4%	23	9.3%
		SBD Total	-	4.13	50.5%	51	20.6%
Alterations (R&R and TI)	2004 QTR 1-4	F. W. Dodge	0.442	-		449	
		SBD Whole Building	-	0.00	-	0	0.0%
		SBD Systems Approach	-	0.14	-	4	0.9%
		SBD Total	-	0.14	-	4	0.9%

6. NRNC MARKET AND PROGRAM TRACKING SUMMARY

This chapter provides a summary of the NRNC market and SBD program activity since SBD program inception (July 1999).

Tables 6.1 – 6.5 summarize the market activity quarterly, statewide and by utility territory, starting with Quarter 3, 1999. Table 6.6 summarizes Tables 6.1-6.5 and presents the market activity by year. Consistent with the data reported in the previous chapters, F.W. Dodge project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities. SoCalGas's CIS, in conjunction with the CEC zip code-to-utility mapping was used to obtain a comprehensive list of zip codes served by SoCalGas, but not by any other IOU.

As discussed in Chapters 3 and 4, there is some variation in market activity from quarter to quarter. Quarter 4, 2004, presents the lowest volume of project starts statewide, while Quarter 2, 2001, presents the largest volume of project starts. This result may be due to changes in building codes that went into effect on July 1, 2001, and which contributed to an increase in permit activity prior to the effective date of those changes, but also to the energy conservation activity statewide in 2001. The slight decrease in the subsequent years is probably due to the slowing of the California economy since 2002.

Tables 6.7 – 6.11 summarize SBD Program activity quarterly, statewide and by utility territory, starting with Quarter 3, 1999. Table 6.12 summarizes the SBD Program activity by year. Table 6.13 summarizes annual SBD Program penetration, statewide and by utility territory.

SBD program activity follows similar trends as the NRNC market, with a relatively busy year in 2001 and a less active year in 2002. The 2003 and 2004 program years were slightly more active than 2002, but significantly less active than 2001. It is important to note, however, that the 2004 program year achieved the highest historic penetration rates in terms of square footage, while 2003 achieved the highest historic penetration rates in terms number of participant projects.

Table 6.1 F.W. Dodge Market Summary for Project Starts in California

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects
New and additions	1999	3	3.492	50.23	1,443
		4	2.474	38.16	1,068
	2000	1	3.004	48.08	1,160
		2	2.855	39.77	1,096
		3	3.890	46.31	1,227
		4	3.500	45.99	1,191
	2001	1	4.006	52.11	1,118
		2	3.639	44.73	1,221
		3	3.800	46.47	1,398
		4	2.877	35.17	1,068
	2002	1	2.741	35.61	1,273
		2	3.164	34.01	1,020
		3	3.562	41.45	1,267
		4	3.423	32.55	1,066
	2003	1	3.093	33.90	998
		2	3.979	34.57	996
		3	3.251	30.92	902
		4	3.036	29.24	886
	2004	1	2.927	29.88	952
		2	3.220	31.70	987
3		3.658	32.58	1,138	
4		2.762	26.69	786	
Alterations	1999	3	1.102	-	1,374
		4	0.851	-	1,026
	2000	1	0.710	-	983
		2	0.958	-	1,101
		3	0.959	-	1,425
		4	0.813	-	1,145
	2001	1	0.963	-	1,188
		2	1.164	-	1,416
		3	0.951	-	1,313
		4	0.754	-	874
	2002	1	0.827	-	1,174
		2	0.856	-	1,200
		3	0.876	-	1,175
		4	0.672	-	794
	2003	1	0.719	-	931
		2	1.021	-	1,070
		3	0.878	-	968
		4	0.760	-	911
	2004	1	0.772	-	918
		2	1.470	-	1,224
3		1.072	-	1,118	
4		0.615	-	793	

Table 6.2 F.W. Dodge Market Summary for Project Starts within the SCE Service Territory

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects	
New and additions	1999	3	0.951	17.68	486	
		4	0.731	13.84	340	
	2000	1	1.177	23.25	416	
		2	0.836	14.15	384	
		3	0.891	13.00	325	
		4	0.736	11.63	303	
	2001	1	1.108	14.03	301	
		2	1.013	14.62	351	
		3	1.132	17.36	387	
		4	0.767	10.96	337	
	2002	1	0.866	14.55	368	
		2	1.081	12.64	289	
		3	1.171	14.03	369	
		4	0.999	11.20	331	
	2003	1	0.776	10.80	298	
		2	1.047	9.91	259	
		3	1.210	12.75	286	
		4	0.944	10.41	255	
	2004	1	0.923	10.38	252	
		2	0.767	10.64	279	
		3	1.160	11.89	324	
		4	0.836	11.23	231	
	Alterations	1999	3	0.239	-	429
			4	0.156	-	343
		2000	1	0.214	-	311
			2	0.173	-	293
			3	0.208	-	292
			4	0.167	-	290
2001		1	0.284	-	241	
		2	0.216	-	277	
		3	0.188	-	294	
		4	0.156	-	227	
2002		1	0.183	-	248	
		2	0.180	-	258	
		3	0.219	-	266	
		4	0.135	-	193	
2003		1	0.187	-	206	
		2	0.256	-	251	
		3	0.243	-	256	
		4	0.210	-	222	
2004		1	0.264	-	229	
		2	0.374	-	278	
	3	0.424	-	287		
	4	0.197	-	197		

Table 6.3 F.W. Dodge Market Summary for Project Starts within the PG&E Service Territory

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects	
New and additions	1999	3	1.528	17.77	566	
		4	0.992	13.17	387	
	2000	1	1.087	13.00	371	
		2	0.965	13.05	392	
		3	1.948	21.36	536	
		4	1.671	20.56	532	
	2001	1	1.716	21.66	457	
		2	1.620	17.32	472	
		3	1.300	14.21	497	
		4	1.030	12.04	360	
	2002	1	0.820	9.31	462	
		2	1.036	9.59	414	
		3	1.201	11.67	489	
		4	1.345	11.30	401	
	2003	1	1.246	11.40	377	
		2	1.321	12.02	414	
		3	0.835	6.97	320	
		4	1.029	8.96	377	
	2004	1	0.781	8.45	387	
		2	1.764	13.79	423	
		3	1.529	10.91	460	
		4	0.828	7.35	326	
	Alterations	1999	3	0.513	-	466
			4	0.390	-	291
		2000	1	0.289	-	300
			2	0.430	-	458
			3	0.428	-	620
			4	0.373	-	471
2001		1	0.404	-	456	
		2	0.612	-	652	
		3	0.421	-	472	
		4	0.311	-	358	
2002		1	0.339	-	419	
		2	0.383	-	473	
		3	0.373	-	465	
		4	0.269	-	289	
2003		1	0.251	-	342	
		2	0.501	-	505	
		3	0.362	-	389	
		4	0.316	-	414	
2004		1	0.302	-	441	
		2	0.569	-	562	
		3	0.311	-	474	
		4	0.216	-	323	

Table 6.4 F.W. Dodge Market Summary for Project Starts within the SDG&E Service Territory

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects	
New and additions	1999	3	0.412	5.28	132	
		4	0.362	5.06	136	
	2000	1	0.297	5.29	141	
		2	0.451	5.54	110	
		3	0.453	5.33	141	
		4	0.342	4.63	109	
	2001	1	0.466	5.46	119	
		2	0.326	3.85	144	
		3	0.545	6.49	154	
		4	0.259	3.56	118	
	2002	1	0.374	4.35	118	
		2	0.350	4.17	80	
		3	0.349	4.12	121	
		4	0.236	2.42	86	
	2003	1	0.401	4.50	95	
		2	0.458	4.94	108	
		3	0.324	3.52	78	
		4	0.410	3.98	65	
	2004	1	0.380	3.78	79	
		2	0.223	2.33	65	
		3	0.199	2.10	85	
		4	0.236	1.76	52	
	Alterations	1999	3	0.074	-	139
			4	0.142	-	126
		2000	1	0.105	-	140
			2	0.116	-	106
			3	0.099	-	176
			4	0.103	-	133
2001		1	0.103	-	192	
		2	0.133	-	167	
		3	0.113	-	179	
		4	0.051	-	74	
2002		1	0.101	-	138	
		2	0.076	-	129	
		3	0.106	-	130	
		4	0.106	-	103	
2003		1	0.079	-	94	
		2	0.084	-	90	
		3	0.059	-	97	
		4	0.084	-	39	
2004		1	0.056	-	30	
		2	0.084	-	69	
		3	0.060	-	43	
		4	0.021	-	26	

Table 6.5 F.W. Dodge Market Summary for Project Starts within the SoCalGas Service Territory

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects	
New and additions	1999	3	0.358	5.43	81	
		4	0.165	2.68	78	
	2000	1	0.214	2.44	97	
		2	0.209	1.89	83	
		3	0.337	2.56	88	
		4	0.355	4.69	66	
	2001	1	0.299	5.24	61	
		2	0.378	4.55	83	
		3	0.221	2.43	116	
		4	0.233	3.09	66	
	2002	1	0.244	2.82	98	
		2	0.337	3.19	79	
		3	0.318	3.67	75	
		4	0.414	3.26	76	
	2003	1	0.321	3.81	74	
		2	0.633	3.07	54	
		3	0.184	1.59	55	
		4	0.339	2.34	43	
	2004	1	0.401	2.99	69	
		2	0.147	1.22	57	
		3	0.338	3.04	70	
		4	0.111	0.93	51	
	Alterations	1999	3	0.123	-	134
			4	0.091	-	128
		2000	1	0.058	-	107
			2	0.084	-	114
			3	0.055	-	156
			4	0.036	-	94
2001		1	0.063	-	107	
		2	0.060	-	91	
		3	0.083	-	131	
		4	0.030	-	53	
2002		1	0.095	-	146	
		2	0.091	-	113	
		3	0.068	-	117	
		4	0.081	-	80	
2003		1	0.127	-	128	
		2	0.056	-	75	
		3	0.063	-	72	
		4	0.061	-	51	
2004		1	0.055	-	63	
		2	0.225	-	120	
		3	0.075	-	120	
		4	0.087	-	146	

Table 6.6 F.W. Dodge Market Summary for Annual Project Starts

Program Type	Year	Quarters	Value \$ billions	Area (millions of sqft)	Number of Projects
California					
New Construction	1999	3-4	5.97	88.38	2,511
	2000	1-4	13.25	180.15	4,674
	2001	1-4	14.32	178.49	4,805
	2002	1-4	12.89	143.62	4,626
	2003	1-4	13.36	128.63	3,782
	2004	1-4	12.57	120.86	3,863
Alterations (R&R)	1999	3-4	1.95	-	2,400
	2000	1-4	3.44	-	4,654
	2001	1-4	3.83	-	4,791
	2002	1-4	3.23	-	4,343
	2003	1-4	3.38	-	3,880
	2004	1-4	3.93	-	4,053
SCE					
New Construction	1999	3-4	1.68	31.52	826
	2000	1-4	3.64	62.03	1,428
	2001	1-4	4.02	56.95	1,376
	2002	1-4	4.12	52.43	1,357
	2003	1-4	3.98	43.88	1,098
	2004	1-4	3.69	44.14	1,086
Alterations (R&R)	1999	3-4	0.40	-	772
	2000	1-4	0.76	-	1,186
	2001	1-4	0.84	-	1,039
	2002	1-4	0.72	-	965
	2003	1-4	0.90	-	935
	2004	1-4	1.26	-	991
PG&E					
New Construction	1999	3-4	2.52	30.94	953
	2000	1-4	5.67	67.98	1,831
	2001	1-4	5.67	65.23	1,786
	2002	1-4	4.40	41.87	1,766
	2003	1-4	4.43	39.35	1,488
	2004	1-4	4.90	40.50	1,596
Alterations (R&R)	1999	3-4	0.90	-	757
	2000	1-4	1.52	-	1,849
	2001	1-4	1.75	-	1,938
	2002	1-4	1.36	-	1,646
	2003	1-4	1.43	-	1,650
	2004	1-4	1.40	-	1,800
SDG&E					
New Construction	1999	3-4	0.77	10.33	268
	2000	1-4	1.54	20.79	501
	2001	1-4	1.60	19.35	535
	2002	1-4	1.31	15.06	405
	2003	1-4	1.59	16.94	346
	2004	1-4	1.04	9.97	281
Alterations (R&R)	1999	3-4	0.22	-	265
	2000	1-4	0.42	-	555
	2001	1-4	0.40	-	612
	2002	1-4	0.39	-	500
	2003	1-4	0.30	-	320
	2004	1-4	0.22	-	168
SoCalGas					
New Construction	1999	3-4	0.52	8.11	159
	2000	1-4	1.12	11.58	334
	2001	1-4	1.13	15.32	326
	2002	1-4	1.31	12.93	328
	2003	1-4	1.48	10.81	226
	2004	1-4	1.00	8.18	247
Alterations (R&R)	1999	3-4	0.21	-	262
	2000	1-4	0.23	-	471
	2001	1-4	0.24	-	382
	2002	1-4	0.34	-	456
	2003	1-4	0.31	-	326
	2004	1-4	0.44	-	449

Table 6.7 Statewide SBD Program Participation Summary

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impacts MW	Gas Impacts 1,000 Therms	Number of Participants
NEW CONSTRUCTION							
New Construction	1999	3	3.96	8.30	2.39	16.50	30
		4	11.41	28.75	10.63	-15.13	98
	2000	1	2.00	6.14	1.73	8.94	19
		2	5.86	15.45	4.70	181.22	62
		3	5.22	11.53	3.93	0.00	74
		4	9.84	24.39	7.83	17.70	161
	2001	1	12.59	17.09	6.01	1.68	72
		2	14.70	40.39	11.06	658.58	162
		3	12.00	29.03	9.58	408.06	139
		4	21.24	67.13	13.99	109.61	203
	2002	1	4.08	12.36	3.83	32.42	36
		2	7.39	33.15	7.32	428.14	61
		3	7.83	32.22	6.31	-8.75	92
		4	19.33	87.44	18.81	261.53	246
	2003	1	2.42	8.86	1.82	-14.80	35
		2	7.47	43.74	8.47	342.96	80
		3	12.30	40.56	7.98	167.60	123
		4	22.98	105.63	25.64	1,167.30	251
	2004	1	4.54	32.68	6.02	953.16	67
		2	18.39	32.16	6.74	5,253.33	126
3		8.75	46.47	9.23	414.48	122	
4		16.29	115.73	15.32	533.58	182	
R&R, incl. T1							
R&R, incl. T1	1999	3	1.39	5.56	0.69	0.00	16
		4	1.90	4.54	1.47	3.67	36
	2000	1	4.01	3.33	1.11	12.28	25
		2	2.69	5.32	1.60	0.46	36
		3	1.82	5.40	0.94	0.00	37
		4	4.75	12.83	3.63	0.00	84
	2001	1	1.26	10.15	1.45	0.00	22
		2	4.42	9.74	3.12	2.51	67
		3	2.60	4.23	1.47	25.29	48
		4	4.32	8.80	1.91	48.11	85
	2002	1	0.89	10.37	0.89	11.52	13
		2	0.90	4.32	0.29	9.19	18
		3	1.95	6.96	1.52	85.34	43
		4	2.91	9.63	1.61	72.33	53
	2003	1	0.90	0.88	0.31	-1.47	13
		2	2.34	3.14	0.87	-2.46	35
		3	2.79	6.59	1.23	110.75	54
		4	3.27	11.11	2.08	97.50	52
	2004	1	1.62	6.77	1.25	116.95	20
		2	1.86	11.16	1.58	-0.67	21
3		3.10	6.41	1.06	-26.37	27	
4		3.70	10.91	2.41	7.79	47	

Table 6.8 SBD Program Participation Summary for SCE Territory

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impact MW	Gas Impacts 1,000 Therms	Number of Participants	
NEW CONSTRUCTION								
New Construction	1999	3	3.78	7.98	2.23	0.00	27	
		4	5.77	14.71	3.42	0.00	49	
	2000	1	1.30	4.89	1.32	0.00	8	
		2	2.63	6.77	1.63	0.00	19	
		3	2.74	7.22	2.48	0.00	28	
		4	2.31	11.22	1.85	0.00	30	
	2001	1	5.46	5.92	0.96	0.00	23	
		2	3.89	13.88	2.11	0.00	47	
		3	3.80	12.28	3.21	0.00	37	
		4	9.96	39.22	6.06	0.00	82	
	2002	1	2.95	10.70	2.76	0.00	23	
		2	4.37	18.67	4.28	0.00	38	
		3	4.33	19.87	4.03	0.00	61	
		4	7.38	43.34	8.01	0.00	89	
	2003	1	1.45	5.14	1.44	0.00	23	
		2	2.06	20.09	2.45	0.00	21	
		3	6.23	22.58	4.18	0.00	61	
		4	8.36	35.26	5.94	0.00	103	
	2004	1	1.75	8.05	1.22	0.00	20	
		2	4.50	16.26	3.15	0.00	49	
		3	5.46	29.97	5.63	0.00	63	
		4	7.36	69.60	4.74	0.00	61	
	R&R, incl. TI							
	R&R, incl. TI	1999	3	1.23	5.34	0.64	0.00	11
			4	1.10	2.35	0.67	0.00	15
		2000	1	0.41	0.44	0.12	0.00	5
			2	1.58	2.65	0.68	0.00	10
			3	0.77	3.87	0.33	0.00	12
4			3.46	9.30	2.73	0.00	46	
2001		1	0.44	6.54	0.93	0.00	10	
		2	2.12	7.18	1.86	0.00	15	
		3	0.94	2.24	0.60	0.00	16	
		4	0.71	1.95	0.29	0.00	11	
2002		1	0.42	9.71	0.65	0.00	8	
		2	0.70	3.39	0.21	0.00	13	
		3	0.64	1.94	0.39	0.00	15	
		4	1.15	3.21	0.42	0.00	19	
2003		1	0.65	0.69	0.23	0.00	7	
		2	0.33	0.69	0.05	0.00	10	
		3	0.76	3.04	0.31	0.00	18	
		4	1.12	5.23	1.05	0.00	20	
2004		1	0.58	3.26	0.57	0.00	6	
		2	1.07	5.46	0.84	0.00	6	
		3	2.28	1.02	0.28	0.00	6	
		4	0.94	3.92	0.85	0.00	17	

Table 6.9 SBD Program Participation Summary for PG&E Territory

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impact MW	Gas Impacts 1,000 Therms	Number of Participants
NEW CONSTRUCTION							
New Construction	1999	3	0.00	0.00	0.00	0.00	0
		4	4.06	8.84	5.49	0.00	35
	2000	1	0.07	0.18	0.08	0.00	1
		2	1.75	3.05	1.27	0.00	20
		3	1.32	2.06	0.78	0.00	30
		4	5.98	10.71	5.28	10.04	93
	2001	1	5.68	8.98	4.54	0.00	31
		2	7.94	13.35	6.46	286.77	81
		3	5.85	9.94	4.91	299.81	71
		4	6.74	18.09	4.64	-17.08	90
	2002	1	1.14	1.66	1.07	32.42	13
		2	1.69	5.10	1.65	2.41	10
		3	1.29	6.08	1.29	-34.91	11
		4	8.99	35.89	8.97	197.92	86
	2003	1	0.00	0.00	0.00	0.00	0
		2	3.60	11.47	3.26	47.58	31
		3	2.47	7.35	1.68	59.99	26
		4	11.85	54.35	17.18	1006.24	112
	2004	1	1.55	7.58	1.45	26.43	32
		2	12.16	10.83	1.89	5228.68	41
3		1.62	7.12	1.47	343.78	32	
4		4.64	32.05	6.75	361.78	70	
R&R, incl. TI							
R&R, incl. TI	1999	3	0.00	0.00	0.00	0.00	0
		4	0.34	0.56	0.22	0.00	6
	2000	1	0.04	0.06	0.02	0.00	2
		2	0.43	1.44	0.50	0.00	9
		3	0.16	0.13	0.09	0.00	3
		4	0.82	2.64	0.67	0.00	24
	2001	1	0.44	0.56	0.13	0.00	5
		2	1.67	1.71	0.93	1.25	34
		3	1.12	1.26	0.58	25.40	19
		4	2.93	4.61	1.07	23.19	61
	2002	1	0.47	0.66	0.24	11.52	5
		2	0.08	0.06	0.02	5.57	1
		3	1.13	4.04	0.93	7.66	22
		4	1.54	6.10	1.12	74.34	27
	2003	1	0.05	0.07	0.04	0.00	2
		2	1.08	1.48	0.51	-1.21	9
		3	1.19	1.25	0.42	13.07	13
		4	1.70	3.70	0.81	23.52	25
	2004	1	0.58	0.61	0.26	-0.11	10
		2	0.62	5.47	0.70	-0.77	10
3		0.79	5.30	0.75	-26.32	19	
4		2.63	6.66	1.41	6.79	24	

Table 6.10 SBD Program Participation Summary for SDG&E Territory

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impact MW	Gas Impacts 1,000 Therms	Number of Participants	
NEW CONSTRUCTION								
New Construction	1999	3	0.18	0.32	0.16	16.50	3	
		4	1.57	5.20	1.72	-15.13	14	
	2000	1	0.63	1.08	0.33	8.94	10	
		2	1.48	5.63	1.81	181.22	23	
		3	1.16	2.25	0.67	0.00	16	
		4	1.42	2.08	0.49	-0.46	27	
	2001	1	0.92	2.19	0.52	1.68	17	
		2	2.88	13.17	2.49	371.81	34	
		3	2.35	6.82	1.46	108.25	31	
		4	3.87	9.53	3.15	126.25	30	
	2002	1	0.00	0.00	0.00	0.00	0	
		2	1.32	9.39	1.39	425.73	13	
		3	1.99	4.93	0.82	23.31	18	
		4	1.94	5.42	1.28	60.76	49	
	2003	1	0.44	1.40	0.23	-14.60	4	
		2	1.21	9.36	2.24	296.07	19	
		3	1.51	4.97	0.98	104.67	26	
		4	1.54	9.06	1.67	56.15	20	
	2004	1	0.98	15.08	3.20	928.31	12	
		2	1.16	3.93	1.30	1.13	23	
		3	1.06	7.14	1.29	74.18	12	
		4	1.60	6.33	1.45	22.92	31	
	R&R, incl. TI							
	R&R, incl. TI	1999	3	0.16	0.22	0.05	0.00	5
			4	0.46	1.63	0.58	3.67	15
		2000	1	3.56	2.82	0.97	12.28	18
			2	0.68	1.23	0.42	0.46	17
			3	0.89	1.41	0.52	0.00	22
4			0.47	0.89	0.22	0.00	14	
2001		1	0.38	3.05	0.40	0.00	7	
		2	0.55	0.81	0.31	1.26	17	
		3	0.54	0.73	0.29	-0.11	13	
		4	0.61	1.88	0.49	24.44	12	
2002		1	0.00	0.00	0.00	0.00	0	
		2	0.12	0.86	0.07	3.62	4	
		3	0.18	0.98	0.20	77.68	6	
		4	0.22	0.33	0.07	-2.02	7	
2003		1	0.00	0.00	0.00	0.00	0	
		2	0.85	0.92	0.29	-1.10	15	
		3	0.75	2.23	0.46	90.60	21	
		4	0.10	1.29	0.09	70.60	2	
2004		1	0.46	2.89	0.42	117.06	4	
		2	0.10	0.07	0.03	-0.14	3	
		3	0.03	0.10	0.02	-0.04	2	
		4	0.07	0.28	0.15	0.39	4	

Table 6.11 SBD Program Participation Summary for SoCalGas Territory

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impact MW	Gas Impacts 1,000 Therms	Number of Participants
NEW CONSTRUCTION							
New Construction	1999	3	0.00	0.00	0.00	0.00	0
		4	0.00	0.00	0.00	0.00	0
	2000	1	0.00	0.00	0.00	0.00	0
		2	0.00	0.00	0.00	0.00	0
		3	0.00	0.00	0.00	0.00	0
		4	0.13	0.38	0.21	8.12	11
	2001	1	0.53	0.00	0.00	0.00	1
		2	0.00	0.00	0.00	0.00	0
		3	0.00	0.00	0.00	0.00	0
		4	0.67	0.29	0.13	0.44	1
	2002	1	0.00	0.00	0.00	0.00	0
		2	0.00	0.00	0.00	0.00	0
		3	0.22	1.34	0.16	2.85	2
		4	1.02	2.79	0.55	2.85	22
	2003	1	0.53	2.32	0.15	-0.20	8
		2	0.59	2.82	0.52	-0.69	9
		3	2.10	5.66	1.15	2.94	10
		4	1.24	6.96	0.86	104.91	16
	2004	1	0.25	1.98	0.15	-1.58	3
		2	0.57	1.14	0.39	23.52	13
3		0.61	2.24	0.84	-3.47	15	
4		2.69	7.75	2.38	148.88	20	
R&R, incl. TI							
R&R, incl. TI	1999	3	0.00	0.00	0.00	0.00	0
		4	0.00	0.00	0.00	0.00	0
	2000	1	0.00	0.00	0.00	0.00	0
		2	0.00	0.00	0.00	0.00	0
		3	0.00	0.00	0.00	0.00	0
		4	0.00	0.00	0.00	0.00	0
	2001	1	0.00	0.00	0.00	0.00	0
		2	0.08	0.04	0.02	0.00	1
		3	0.00	0.00	0.00	0.00	0
		4	0.06	0.37	0.07	0.48	1
	2002	1	0.00	0.00	0.00	0.00	0
		2	0.00	0.00	0.00	0.00	0
		3	0.00	0.00	0.00	0.00	0
		4	0.00	0.00	0.00	0.00	0
	2003	1	0.20	0.12	0.04	-1.47	4
		2	0.07	0.06	0.02	-0.15	1
		3	0.09	0.07	0.03	7.08	2
		4	0.37	0.89	0.13	3.38	5
	2004	1	0.00	0.00	0.00	0.00	0
		2	0.08	0.17	0.01	0.24	2
3		0.00	0.00	0.00	0.00	0	
4		0.07	0.04	0.01	0.61	2	

Table 6.12 Annual SBD Program Participation Summary

Program Type	Year	Quarters	Area (millions of sqft)	Energy Impacts GWh	Demand Impacts MW	Gas Impacts 1,000 Therms	Number of Measures	Number of Participants
California								
New Construction	1999	3-4	15.37	37.05	13.02	1.37	243	128
	2000	1-4	22.92	57.51	18.19	207.85	662	316
	2001	1-4	60.53	153.65	40.64	1,177.93	1,126	576
	2002	1-4	38.63	165.17	36.27	713.35	742	435
	2003	1-4	45.17	198.79	43.91	1,663.06	792	489
	2004	1-4	47.97	227.03	37.30	7,154.55	787	497
Alterations (R&R)	1999	3-4	3.29	10.11	2.15	3.67	133	52
	2000	1-4	13.27	26.87	7.28	12.74	608	182
	2001	1-4	12.60	32.92	7.96	75.90	475	222
	2002	1-4	6.65	31.28	4.32	178.37	214	127
	2003	1-4	9.30	21.73	4.49	204.33	346	154
	2004	1-4	10.29	35.25	6.30	97.70	171	115
SCE								
New Construction	1999	3-4	9.55	22.69	5.65	0.00	145	76
	2000	1-4	8.99	30.10	7.28	0.00	154	85
	2001	1-4	23.11	71.30	12.34	0.00	292	189
	2002	1-4	19.02	92.59	19.08	0.00	323	211
	2003	1-4	18.10	83.06	14.00	0.00	324	208
	2004	1-4	19.08	123.88	14.74	0.00	285	193
Alterations (R&R)	1999	3-4	2.33	7.69	1.31	0.00	43	26
	2000	1-4	6.22	16.25	3.87	0.00	116	73
	2001	1-4	4.21	17.91	3.68	0.00	86	52
	2002	1-4	2.90	18.25	1.66	0.00	80	55
	2003	1-4	2.86	9.65	1.65	0.00	75	55
	2004	1-4	4.86	13.66	2.54	0.00	59	35
PG&E								
New Construction	1999	3-4	4.06	8.84	5.49	0.00	50	35
	2000	1-4	9.11	15.99	7.40	10.04	214	144
	2001	1-4	26.21	50.36	20.55	569.50	401	273
	2002	1-4	13.11	48.72	12.98	197.85	148	120
	2003	1-4	17.92	73.18	22.11	1,113.82	222	169
	2004	1-4	19.97	57.58	11.55	5,960.67	233	175
Alterations (R&R)	1999	3-4	0.34	0.56	0.22	0.00	9	6
	2000	1-4	1.45	4.26	1.28	0.00	57	38
	2001	1-4	6.17	8.14	2.71	49.84	156	119
	2002	1-4	3.22	10.85	2.32	99.08	92	55
	2003	1-4	4.02	6.50	1.77	35.38	66	49
	2004	1-4	4.63	18.04	3.13	-20.41	74	63
SDG&E								
New Construction	1999	3-4	1.76	5.52	1.87	1.37	48	17
	2000	1-4	4.70	11.03	3.30	189.70	283	76
	2001	1-4	10.01	31.71	7.62	607.99	430	112
	2002	1-4	5.25	19.74	3.50	509.80	206	80
	2003	1-4	4.70	24.80	5.11	442.29	184	69
	2004	1-4	4.80	32.47	7.25	1,026.54	184	78
Alterations (R&R)	1999	3-4	0.62	1.85	0.63	3.67	81	20
	2000	1-4	5.60	6.36	2.14	12.74	435	71
	2001	1-4	2.08	6.47	1.48	25.58	231	49
	2002	1-4	0.53	2.18	0.34	79.28	42	17
	2003	1-4	1.70	4.45	0.84	160.11	183	38
	2004	1-4	0.66	3.34	0.62	117.26	29	13
SoCalGas								
New Construction	1999	3-4	0.00	0.00	0.00	0.00	0	0
	2000	1-4	0.13	0.38	0.21	8.12	11	11
	2001	1-4	1.20	0.29	0.13	0.44	3	2
	2002	1-4	1.25	4.13	0.71	5.71	65	24
	2003	1-4	4.45	17.75	2.68	106.96	62	43
	2004	1-4	4.13	13.10	3.76	167.35	85	51
Alterations (R&R)	1999	3-4	0.00	0.00	0.00	0.00	0	0
	2000	1-4	0.00	0.00	0.00	0.00	0	0
	2001	1-4	0.13	0.40	0.08	0.48	2	2
	2002	1-4	0.00	0.00	0.00	0.00	0	0
	2003	1-4	0.73	1.14	0.22	8.84	22	12
	2004	1-4	0.14	0.21	0.02	0.86	9	4

Table 6.13 Summary of Statewide SBD Program Penetration

Program Type	Year	Quarters	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
California								
New Construction	1999	3-4	88.38	15.37	17.4%	2,511	128	5.1%
	2000	1-4	180.15	22.92	12.7%	4,674	316	6.8%
	2001	1-4	178.49	60.53	33.9%	4,805	576	12.0%
	2002	1-4	143.62	38.63	26.9%	4,626	435	9.4%
	2003	1-4	128.63	45.17	35.1%	3,782	489	12.9%
	2004	1-4	120.86	47.97	39.7%	3,863	497	12.9%
Alterations (R&R)	1999	3-4	-	3.29	-	2,400	52	2.2%
	2000	1-4	-	13.27	-	4,654	182	3.9%
	2001	1-4	-	12.60	-	4,791	222	4.6%
	2002	1-4	-	6.65	-	4,343	127	2.9%
	2003	1-4	-	9.30	-	3,880	154	4.0%
	2004	1-4	-	10.29	-	4,053	115	2.8%
SCE								
New Construction	1999	3-4	31.52	9.55	30.3%	826	76	9.2%
	2000	1-4	62.03	8.99	14.5%	1,428	85	6.0%
	2001	1-4	56.95	23.11	40.6%	1,376	189	13.7%
	2002	1-4	52.43	19.02	36.3%	1,357	211	15.5%
	2003	1-4	43.88	18.10	41.2%	1,098	208	18.9%
	2004	1-4	44.14	19.08	43.2%	1,086	193	17.8%
Alterations (R&R)	1999	3-4	-	2.33	-	772	26	3.4%
	2000	1-4	-	6.22	-	1,186	73	6.2%
	2001	1-4	-	4.21	-	1,039	52	5.0%
	2002	1-4	-	2.90	-	965	55	5.7%
	2003	1-4	-	2.86	-	935	55	5.9%
	2004	1-4	-	4.86	-	991	35	3.5%
PG&E								
New Construction	1999	3-4	30.94	4.06	13.1%	953	35	3.7%
	2000	1-4	67.98	9.11	13.4%	1,831	144	7.9%
	2001	1-4	65.23	26.21	40.2%	1,786	273	15.3%
	2002	1-4	41.87	13.11	31.3%	1,766	120	6.8%
	2003	1-4	39.35	17.92	45.5%	1,488	169	11.4%
	2004	1-4	40.50	19.97	49.3%	1,596	175	11.0%
Alterations (R&R)	1999	3-4	-	0.34	-	757	6	0.8%
	2000	1-4	-	1.45	-	1,849	38	2.1%
	2001	1-4	-	6.17	-	1,938	119	6.1%
	2002	1-4	-	3.22	-	1,646	55	3.3%
	2003	1-4	-	4.02	-	1,650	49	3.0%
	2004	1-4	-	4.63	-	1,800	63	3.5%
SDG&E								
New Construction	1999	3-4	10.33	1.76	17.0%	268	17	6.3%
	2000	1-4	20.79	4.70	22.6%	501	76	15.2%
	2001	1-4	19.35	10.01	51.7%	535	112	20.9%
	2002	1-4	15.06	5.25	34.9%	405	80	19.8%
	2003	1-4	16.94	4.70	27.7%	346	69	19.9%
	2004	1-4	9.97	4.80	48.1%	281	78	27.8%
Alterations (R&R)	1999	3-4	-	0.62	-	265	20	7.5%
	2000	1-4	-	5.60	-	555	71	12.8%
	2001	1-4	-	2.08	-	612	49	8.0%
	2002	1-4	-	0.53	-	500	17	3.4%
	2003	1-4	-	1.70	-	320	38	11.9%
	2004	1-4	-	0.66	-	168	13	7.7%
SoCalGas								
New Construction	1999	3-4	8.11	0.00	0.0%	159	0	0.0%
	2000	1-4	11.58	0.13	1.1%	334	11	3.3%
	2001	1-4	15.32	1.20	7.9%	326	2	0.6%
	2002	1-4	12.93	1.25	9.6%	328	24	7.3%
	2003	1-4	10.81	4.45	41.2%	226	43	19.0%
	2004	1-4	8.18	4.13	50.5%	247	51	20.6%
Alterations (R&R)	1999	3-4	-	0.00	-	262	0	0.0%
	2000	1-4	-	0.00	-	471	0	0.0%
	2001	1-4	-	0.13	-	382	2	0.5%
	2002	1-4	-	0.00	-	456	0	0.0%
	2003	1-4	-	0.73	-	326	12	3.7%
	2004	1-4	-	0.14	-	449	4	0.9%

7. MOST ACTIVE MARKET PLAYERS IN PY2004

This chapter presents the most active market players in PY2004, by utility territory and statewide, as reported in the F.W. Dodge "Players" database. The most active market players are defined as the architectural, engineering and general contractor firms who either contributed to the highest number of projects, or contributed to projects that added up to the highest total value in PY2004. Knowledge about the players who are most active in new construction design offers targeted marketing opportunities for the SBD program.

Our experience with the F.W. Dodge Reports indicates that, while most projects are associated with at least one market actor, that actor is not necessarily an architect, engineer or contractor (the F.W. Dodge database also tracks owners). The data reported below are therefore subject to the internal limitations of F.W. Dodge Reports.

In preparing these results, all entries containing the same address, zip code, and similar names for the market actors were considered to correspond to the same firm. Civil engineering, structural engineering, and landscape architecture firms were excluded only if their name included the words "civil", "structural" or "landscape" (the F.W. Dodge database does not contain information regarding the specialty of an actor).

The mapping of market actors by utility service territory was done using the zip code associated with the *project* location, not that associated with the address of the *market actor*.

Table 7.1 presents the most active market players statewide, during PY2004.

Table 7.2 presents the most active market players in SCE territory during PY2004.

Table 7.3 shows the most active market players in PG&E territory during PY2004.

Table 7.4 summarizes the most active market players in SDG&E territory during PY2004.

Table 7.5 shows the most active market players in SoCalGas territory during PY2004.

**Table 7.1 Most Active Market Players in California in PY2004
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$Millions)			Number of Projects		
	City	State	Total	New	Alteration	Total	New	Alteration
			Construction	Construction				
ARCHITECTS								
Top 10 by Project Value								
Chong Partners Architects	SAN FRANCISCO	CA	812.262	695.000	117.262	8	5	3
HMC Group	ONTARIO	CA	430.880	276.135	154.745	84	27	57
Gensler & Associates	SAN FRANCISCO	CA	420.473	314.647	105.150	14	4	4
HOK/Hellmuth Obata & Kassabaum Inc	SAN FRANCISCO	CA	419.314	368.129	50.990	15	7	6
Kohn Pederson Fox	NEW YORK	NY	400.000	400.000	-	3	3	-
Robert Young & Associates	DALLAS	TX	400.000	400.000	-	3	3	-
Perkowitz + Ruth Architects	NEWPORT BEACH	CA	387.517	348.017	39.500	58	47	11
W L C Architects	RANCHO CUCAMONGA	CA	362.146	320.481	41.665	46	34	12
Taylor & Assocs	NEWPORT BEACH	CA	341.500	230.000	111.500	3	1	2
LPA Inc	ROSEVILLE	CA	321.201	182.769	138.432	50	16	34
Top 10 by Number of Projects								
HMC Group	ONTARIO	CA	430.880	276.135	154.745	84	27	57
Perkowitz + Ruth Architects	NEWPORT BEACH	CA	387.517	348.017	39.500	58	47	11
LPA Inc	ROSEVILLE	CA	321.201	182.769	138.432	50	16	34
W L C Architects	RANCHO CUCAMONGA	CA	362.146	320.481	41.665	46	34	12
Nadel Architects Inc.	SACRAMENTO	CA	214.918	182.300	32.490	45	36	8
Rauschenbach Marvelli Becker & Associates	SACRAMENTO	CA	52.307	40.957	11.350	36	20	16
PJHM Architects Southwest	SAN CLEMENTE	CA	134.221	81.590	52.631	35	12	23
Nichols Melburg & Rosetto	FAIR OAKS	CA	57.607	42.797	14.810	33	14	19
Aedis Architecture & Planning	SAN JOSE	CA	118.576	44.355	74.221	32	5	27
Flewelling & Moody Architects	PASADENA	CA	68.823	12.839	55.984	30	5	25
ENGINEERS								
Top 10 by Project Value								
Capital Engineering Consultants	RANCHO CORDOVA	CA	806.790	620.352	186.438	139	62	77
KPF Consulting Engineers	SAN FRANCISCO	CA	615.078	328.329	286.749	63	41	22
Flack & Kurtz Consulting Engineers	SAN FRANCISCO	CA	553.716	540.750	12.966	9	6	3
Buehler & Buehler	SACRAMENTO	CA	474.200	296.807	177.393	59	34	25
ARUP Calif Ltd	LOS ANGELES	CA	454.166	454.166	-	13	13	-
Dasse Design Inc	SAN FRANCISCO	CA	429.177	334.129	95.048	42	21	21
William J Yang & Assocs	BURBANK	CA	354.712	329.497	25.215	19	7	12
Syska & Hennessy Inc	LOS ANGELES	CA	352.571	337.677	14.894	15	10	5
TMAD Engineering	SAN DIEGO	CA	337.710	217.452	120.258	86	37	49
Frederick Brown Associates FBA	NEWPORT BEACH	CA	337.586	234.135	103.451	48	24	24
Top 10 by Number of Projects								
Capital Engineering Consultants	RANCHO CORDOVA	CA	806.790	620.352	186.438	139	62	77
TMAD Engineering	SAN DIEGO	CA	337.710	217.452	120.258	86	37	49
KPF Consulting Engineers	SAN FRANCISCO	CA	615.078	328.329	286.749	63	41	22
Buehler & Buehler	SACRAMENTO	CA	474.200	296.807	177.393	59	34	25
Sacramento Engineering Consultants	SACRAMENTO	CA	114.591	93.167	21.424	52	32	20
Frederick Brown Associates FBA	NEWPORT BEACH	CA	337.586	234.135	103.451	48	24	24
ANF and Associates	EL MONTE	CA	161.745	155.595	6.150	47	44	3
Johnson & Neilsen Associates	LOS ANGELES	CA	217.309	149.864	67.445	47	25	22
G L P Engineering	SANTA ANA	CA	178.663	109.675	68.988	45	22	23
Clumac International	SAN FRANCISCO	CA	216.992	174.272	42.720	44	24	20
GENERAL CONTRACTORS								
Top 10 by Project Value								
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	779.587	589.914	189.673	58	22	36
Swinerton Builders/Walsh Const (JV)	LOS ANGELES	CA	716.214	668.293	47.821	26	18	7
Douglas E Barnhart Inc	SAN DIEGO	CA	714.799	499.984	214.815	76	43	33
Fluor Daniel	GREENVILLE	SC	600.000	600.000	-	1	1	-
ISEC	SAN DIEGO	CA	585.160	469.504	115.656	47	29	18
Turner Construction	NEW YORK	NY	408.093	273.604	134.489	32	16	16
Hensel Phelps Construction Co Inc	SAN JOSE	CA	401.140	399.990	1.150	10	8	2
Westfield Corporation Inc	LOS ANGELES	CA	400.000	400.000	-	3	3	-
S J Amoroso Construction Co Inc	REDWOOD CITY	CA	373.909	312.007	61.902	19	15	4
Best Roofing & Waterproofing	HAYWARD	CA	373.158	293.912	79.246	26	13	13
Top 10 by Number of Projects								
Douglas E Barnhart Inc	SAN DIEGO	CA	714.799	499.984	214.815	76	43	33
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	779.587	589.914	189.673	58	22	36
W L Butler Construction Inc	REDWOOD CITY	CA	104.263	53.675	50.213	50	15	32
ISEC	SAN DIEGO	CA	585.160	469.504	115.656	47	29	18
Market Contractors Ltd	PORTLAND	OR	4.712	-	3.357	44	-	28
Vanir Construction Management	LOS ANGELES	CA	294.168	188.022	106.146	39	8	31
Del Terra Construction Management	LOS ANGELES	CA	93.207	-	93.207	38	-	38
Reeve Knight Construction	MONTEREY	CA	25.202	22.113	1.300	32	11	4
Turner Construction	NEW YORK	NY	408.093	273.604	134.489	32	16	16
Lusardi Construction Company	SAN MARCOS	CA	228.993	221.613	7.380	31	26	5

**Table 7.2 Most Active Market Players in SCE Territory in PY2004
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
	City	State	Total	New Construction	Alteration	Total	New Construction	Alteration
ARCHITECTS								
Top 10 by Project Value								
W L C Architects	RANCHO CUCAMONGA	CA	272.297	239.555	32.742	32	24	8
RGA Architectural Design	IRVINE	CA	231.551	231.551	-	13	13	-
HPA Hill Pinckert Architects	NEWPORT BEACH	CA	219.665	219.665	-	12	12	-
HMC Group	ONTARIO	CA	197.435	120.083	77.352	40	14	26
LPA Inc	ROSEVILLE	CA	174.326	83.258	91.068	19	6	13
Richard D Chong & Assocs	SALT LAKE CITY	UT	140.000	140.000	-	1	1	-
Cannon Design	LOS ANGELES	CA	128.896	87.234	41.662	6	3	3
NBBJ Architecture Design Planning	SEATTLE	WA	125.000	125.000	-	1	1	-
DMJM Design	LOS ANGELES	CA	121.500	1.500	120.000	3	1	2
Taylor & Assocs	NEWPORT BEACH	CA	111.500	-	111.500	2	-	2
Top 10 by Number of Projects								
HMC Group	ONTARIO	CA	197.435	120.083	77.352	40	14	26
W L C Architects	RANCHO CUCAMONGA	CA	272.297	239.555	32.742	32	24	8
Flewelling & Moody Architects	PASADENA	CA	68.823	12.839	55.984	30	5	25
Neptune Thomas Davis	GLENDORA	CA	103.116	56.603	46.513	27	6	21
Perkowitz + Ruth Architects	NEWPORT BEACH	CA	99.675	78.175	21.500	24	18	6
Nadel Architects Inc.	SACRAMENTO	CA	89.274	79.174	10.100	20	18	2
LPA Inc	ROSEVILLE	CA	174.326	83.258	91.068	19	6	13
Martinez Architects Inc	THOUSAND OAKS	CA	51.326	13.845	37.481	18	2	16
RGA Architectural Design	IRVINE	CA	231.551	231.551	-	13	13	-
CKK Corporation	PASADENA	CA	39.243	-	39.243	13	-	13
ENGINEERS								
Top 10 by Project Value								
KPFF Consulting Engineers	SAN FRANCISCO	CA	258.990	125.518	133.472	21	12	9
TMAD Engineering	SAN DIEGO	CA	242.907	154.532	88.375	59	26	33
John A Martin & Associates	LOS ANGELES	CA	234.220	145.970	88.250	14	6	8
Nabih Youssef & Associates	LOS ANGELES	CA	186.473	152.768	33.705	11	6	5
Frederick Brown Associates FBA	NEWPORT BEACH	CA	184.247	134.544	49.703	27	14	13
Nack and Associates	ANAHEIM	CA	179.722	161.008	18.714	20	14	6
Syska & Hennessy Inc	LOS ANGELES	CA	179.223	179.223	-	3	3	-
K B Leung & Associates	RANCHO CUCAMONGA	CA	178.001	170.604	7.397	14	12	2
Johnson & Neilsen Associates	LOS ANGELES	CA	170.304	115.301	55.003	40	19	21
William J Yang & Assocs	BURBANK	CA	168.942	155.000	13.942	7	2	5
Top 10 by Number of Projects								
TMAD Engineering	SAN DIEGO	CA	242.907	154.532	88.375	59	26	33
Johnson & Neilsen Associates	LOS ANGELES	CA	170.304	115.301	55.003	40	19	21
KNA Consulting Engineers Inc	LAGUNA HILLS	CA	157.829	121.587	36.242	28	8	20
ANF and Associates	EL MONTE	CA	64.108	60.108	4.000	27	26	1
Frederick Brown Associates FBA	NEWPORT BEACH	CA	184.247	134.544	49.703	27	14	13
G L P Engineering	SANTA ANA	CA	114.469	69.939	44.530	23	11	12
F T Andrews Inc	ANAHEIM	CA	154.819	91.260	63.559	23	11	12
American Mechanical & Plumbing	GLENDORA	CA	98.235	62.807	35.428	21	6	15
KPFF Consulting Engineers	SAN FRANCISCO	CA	258.990	125.518	133.472	21	12	9
Nack and Associates	ANAHEIM	CA	179.722	161.008	18.714	20	14	6
GENERAL CONTRACTORS								
Top 10 by Project Value								
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	437.130	271.997	165.133	44	12	32
ISEC	SAN DIEGO	CA	342.371	298.598	43.773	25	17	8
Shimmick Construction Co Inc./Obayashi Corp.	HAYWARD	CA	280.000	280.000	-	2	2	-
Best Roofing & Waterproofing	HAYWARD	CA	243.443	183.565	59.878	18	10	8
C W Driver Contractors	PASADENA	CA	236.601	223.601	13.000	16	12	4
Oltmans Construction	THOUSAND OAKS	CA	228.768	227.564	1.087	20	16	3
Douglas E Barnhart Inc	SAN DIEGO	CA	221.353	131.752	89.601	30	16	14
Turner Construction	NEW YORK	NY	172.563	112.037	60.526	11	8	3
A S R Constructors Inc	RIVERSIDE	CA	157.864	122.770	35.094	26	20	6
Fullmer Construction	ONTARIO	CA	156.150	155.782	0.250	13	11	1
Top 10 by Number of Projects								
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	437.130	271.997	165.133	44	12	32
Del Terra Construction Management	LOS ANGELES	CA	93.207	-	93.207	38	-	38
Douglas E Barnhart Inc	SAN DIEGO	CA	221.353	131.752	89.601	30	16	14
A S R Constructors Inc	RIVERSIDE	CA	157.864	122.770	35.094	26	20	6
ISEC	SAN DIEGO	CA	342.371	298.598	43.773	25	17	8
Oltmans Construction	THOUSAND OAKS	CA	228.768	227.564	1.087	20	16	3
Best Roofing & Waterproofing	HAYWARD	CA	243.443	183.565	59.878	18	10	8
Heil Construction	MONROVIA	CA	44.357	38.357	6.000	17	15	2
C W Driver Contractors	PASADENA	CA	236.601	223.601	13.000	16	12	4
Magnum Enterprises Main Office	ANAHEIM	CA	19.139	18.626	0.350	16	13	1

**Table 7.3 Most Active Market Players in PG&E Territory in PY2004
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$Millions)			Number of Projects		
	City	State	Total	New Construction	Alteration	Total	New Construction	Alteration
ARCHITECTS								
Top 10 by Project Value								
Chong Partners Architects	SAN FRANCISCO	CA	416.058	305.000	111.058	5	3	2
Kohn Pederson Fox	NEW YORK	NY	400.000	400.000	-	3	3	-
Robert Young & Associates	DALLAS	TX	400.000	400.000	-	3	3	-
HOK/Hellmuth Obata & Kassabaum Inc	SAN FRANCISCO	CA	247.690	242.000	5.690	6	3	3
Beverly Prior Architects	SAN FRANCISCO	CA	220.784	218.511	2.273	7	5	2
Perkowitz + Ruth Architects	NEWPORT BEACH	CA	163.842	149.842	14.000	26	22	4
Edwin S Darden Associates Inc	FRESNO	CA	151.566	111.448	40.118	7	3	4
Richard D Chong & Assocs	SALT LAKE CITY	UT	140.875	140.000	0.875	2	1	1
Gerson & Overstreet	OAKLAND	CA	135.000	135.000	-	1	1	-
TLCD Architecture	SANTA ROSA	CA	121.743	65.842	55.901	20	4	16
Top 10 by Number of Projects								
Aedis Architecture & Planning	SAN JOSE	CA	118.116	44.355	73.761	31	5	26
Perkowitz + Ruth Architects	NEWPORT BEACH	CA	163.842	149.842	14.000	26	22	4
DES Architects + Engineers	REDWOOD CITY	CA	73.041	28.480	44.480	20	6	13
TLCD Architecture	SANTA ROSA	CA	121.743	65.842	55.901	20	4	16
Deems Lewis McKinley	SAN FRANCISCO	CA	69.349	34.117	35.232	19	5	14
Nadel Architects Inc.	SACRAMENTO	CA	72.753	61.325	11.300	17	11	5
Lionakis Beaumont Design Group	SACRAMENTO	CA	52.985	40.630	12.355	16	7	9
Ordiz-Melby Architects	BAKERSFIELD	CA	65.340	47.482	17.858	12	7	5
Rainforth Grau Architects	SACRAMENTO	CA	85.022	78.872	6.150	10	4	6
Steinberg Architects	SAN JOSE	CA	89.328	42.177	47.151	9	3	6
ENGINEERS								
Top 10 by Project Value								
Capital Engineering Consultants	RANCHO CORDOVA	CA	515.101	390.838	124.263	107	44	63
Flack & Kurtz Consulting Engineers	SAN FRANCISCO	CA	473.716	460.750	12.966	8	5	3
Dasse Design Inc	SAN FRANCISCO	CA	419.463	325.173	94.290	39	19	20
Buehler & Buehler	SACRAMENTO	CA	393.442	260.565	132.877	36	19	17
ARUP Calif Ltd	LOS ANGELES	CA	229.198	229.198	-	6	6	-
Lawrence Nye Anderson Associates	FRESNO	CA	228.735	174.581	54.154	24	11	13
KPFF Consulting Engineers	SAN FRANCISCO	CA	227.386	96.370	131.016	24	17	7
Blair Church & Flynn Consulting Engineers	CLOVIS	CA	224.552	178.500	46.052	12	8	4
Ainsworth Associates	SACRAMENTO	CA	220.425	92.894	127.531	18	8	10
Thoma Electric Inc	SAN LUIS OBISPO	CA	207.643	193.926	13.717	16	12	4
Top 10 by Number of Projects								
Capital Engineering Consultants	RANCHO CORDOVA	CA	515.101	390.838	124.263	107	44	63
Dasse Design Inc	SAN FRANCISCO	CA	419.463	325.173	94.290	39	19	20
Sacramento Engineering Consultants	SACRAMENTO	CA	85.644	66.438	19.206	39	23	16
Buehler & Buehler	SACRAMENTO	CA	393.442	260.565	132.877	36	19	17
Turley & Associates	SACRAMENTO	CA	121.309	107.188	14.121	27	19	8
Harry Yee & Associates	SACRAMENTO	CA	113.932	87.574	26.358	26	15	11
Belden Incorporated	DUBLIN	CA	121.153	110.682	10.471	25	10	15
Alfa Tech Consulting Engineers	SAN JOSE	CA	62.943	14.554	48.389	24	4	20
Lawrence Nye Anderson Associates	FRESNO	CA	228.735	174.581	54.154	24	11	13
KPFF Consulting Engineers	SAN FRANCISCO	CA	227.386	96.370	131.016	24	17	7
GENERAL CONTRACTORS								
Top 10 by Project Value								
Fluor Daniel	GREENVILLE	SC	600.000	600.000	-	1	1	-
Westfield Corporation Inc	LOS ANGELES	CA	400.000	400.000	-	3	3	-
Swinerton Builders/Walsh Const (JV)	LOS ANGELES	CA	378.831	333.300	45.531	15	11	4
Shimmick Construction Co Inc./Obayashi Corp.	HAYWARD	CA	280.000	280.000	-	2	2	-
S J Amoroso Construction Co Inc	REDWOOD CITY	CA	270.168	255.284	14.884	13	11	2
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	245.229	238.675	6.554	9	7	2
Hensel Phelps Construction Co Inc	SAN JOSE	CA	223.590	223.590	-	5	5	-
Vanir Construction Management	LOS ANGELES	CA	221.151	161.870	59.281	20	5	15
Skanska USA Building Inc.	SEATTLE	WA	193.900	83.900	110.000	4	3	1
Rudolph & Sletten Inc	ROSEVILLE	CA	193.316	192.500	0.380	7	2	1
Top 10 by Number of Projects								
W L Butler Construction Inc	REDWOOD CITY	CA	83.281	39.550	43.600	31	10	20
Devcon Construction Inc	MILPITAS	CA	71.740	62.313	9.060	26	10	13
Valley Commercial Contractors	WOODLAND HILLS	CA	19.851	17.218	1.023	26	11	3
San Jose Construction Company	SANTA CLARA	CA	30.284	22.810	7.287	22	7	13
Kitchell CEM	SAN JOSE	CA	105.082	66.352	38.730	22	9	13
Reeve Knight Construction	MONTEREY	CA	15.923	13.488	1.300	21	7	4
Vanir Construction Management	LOS ANGELES	CA	221.151	161.870	59.281	20	5	15
Kleeman-Roebbelen Contracting Inc	EL DORADO HILLS	CA	154.028	149.663	4.190	18	11	5
Midstate Construction	PETALUMA	CA	33.549	23.800	9.749	17	7	10
Market Contractors Ltd	PORTLAND	OR	2.057	-	1.757	16	-	12

**Table 7.4 Most Active Market Players in SDG&E Territory in PY2004
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
			Total	New Construction	Alteration	Total	New Construction	Alteration
	City	State						
ARCHITECTS								
Top 10 by Project Value								
Martinez Cutri	SAN DIEGO	CA	160.884	159.966	0.918	5	4	1
Architects Delawie Wilkes Rodrigues Barker	SAN DIEGO	CA	115.200	111.200	4.000	4	3	1
Taylor & Assocs	NEWPORT BEACH	CA	111.500	-	111.500	2	-	2
HOK/Hellmuth Obata & Kassabaum Inc	SAN FRANCISCO	CA	107.500	100.000	7.500	2	1	1
The Stichler Design Group Inc	SAN DIEGO	CA	107.384	93.465	13.919	11	4	7
Carrier Johnson Architects	SAN DIEGO	CA	101.897	98.297	3.600	5	3	2
Shears Adkins Architects	DENVER	CO	90.000	90.000	-	1	1	-
Ruhnau Ruhnau Clarke	RIVERSIDE	CA	85.112	56.184	28.928	11	4	7
Hornberger & Worstell Inc	SAN FRANCISCO	CA	80.000	80.000	-	1	1	-
HMC Group	ONTARIO	CA	73.235	57.000	16.235	11	4	7
Top 10 by Number of Projects								
PJHM Architects Southwest	SAN CLEMENTE	CA	29.039	12.789	16.250	12	2	10
HMC Group	ONTARIO	CA	73.235	57.000	16.235	11	4	7
The Stichler Design Group Inc	SAN DIEGO	CA	107.384	93.465	13.919	11	4	7
Ruhnau Ruhnau Clarke	RIVERSIDE	CA	85.112	56.184	28.928	11	4	7
Sprotte & Watson Architecture & Planning	VISTA	CA	19.520	6.955	12.565	10	1	9
LPA Inc	ROSEVILLE	CA	45.518	35.630	9.888	7	4	3
Ware Malcomb	SAN DIEGO	CA	27.975	27.100	0.875	6	5	1
LR Design Associates	OCEANSIDE	CA	23.549	13.000	10.549	6	2	4
Carrier Johnson Architects	SAN DIEGO	CA	101.897	98.297	3.600	5	3	2
Mesquita & Associates	SAN DIEGO	CA	14.378	0.282	14.096	5	1	4
ENGINEERS								
Top 10 by Project Value								
Burkett & Wong	SAN DIEGO	CA	259.389	237.201	22.188	22	14	8
DMJM Harris	LONG BEACH	CA	187.180	187.180	-	1	1	-
Syska & Hennessy Inc	LOS ANGELES	CA	172.974	158.454	14.520	11	7	4
Johnson Consulting Engineers	POWAY	CA	163.874	131.250	32.624	22	8	14
BDS Consulting Engineers	LEMON GROVE	CA	147.082	135.465	11.617	13	9	4
GEM Engineering Inc	SAN DIEGO	CA	139.547	139.547	-	7	7	-
Magnusson Klemencic Associates	SEATTLE	WA	130.000	130.000	-	2	2	-
Hope Engineering	SAN DIEGO	CA	124.686	123.086	1.600	4	3	1
Michael Wall Engineering	SAN DIEGO	CA	122.821	121.221	1.600	8	7	1
Merrick & Associates	SAN DIEGO	CA	109.067	73.099	35.968	13	3	10
Top 10 by Number of Projects								
Burkett & Wong	SAN DIEGO	CA	259.389	237.201	22.188	22	14	8
Johnson Consulting Engineers	POWAY	CA	163.874	131.250	32.624	22	8	14
Nowak Wiseman & Associates	SAN DIEGO	CA	77.668	64.955	12.713	17	11	6
Turpin & Rattan Engineering Inc	LA MESA	CA	108.179	81.035	27.144	17	8	9
BDS Consulting Engineers	LEMON GROVE	CA	147.082	135.465	11.617	13	9	4
Merrick & Associates	SAN DIEGO	CA	109.067	73.099	35.968	13	3	10
Frederick Brown Associates FBA	NEWPORT BEACH	CA	78.571	49.973	28.598	12	5	7
HVAC Engineering Inc	SAN DIEGO	CA	69.706	56.420	13.286	12	6	6
Nack and Associates	ANAHEIM	CA	85.456	56.184	29.272	12	4	8
Kanda & Tso Associates	SOUTH PASADENA	CA	84.582	56.184	28.398	11	4	7
GENERAL CONTRACTORS								
Top 10 by Project Value								
Douglas E Barnhart Inc	SAN DIEGO	CA	383.338	344.719	38.619	34	24	10
West Coast Rail Constructors	VISTA	CA	187.180	187.180	-	1	1	-
Simon Wong Engineering	SAN DIEGO	CA	187.180	187.180	-	1	1	-
Hensel Phelps Construction Co Inc	SAN JOSE	CA	176.750	176.400	0.350	4	3	1
T B Penick & Sons Inc	SAN DIEGO	CA	160.972	132.334	28.638	15	10	5
Turner Construction	NEW YORK	NY	132.100	130.000	2.100	3	2	1
Soltek Pacific Inc.	SAN DIEGO	CA	99.468	62.437	37.031	15	7	8
Lusardi Construction Company	SAN MARCOS	CA	91.970	87.300	4.670	11	9	2
Perfection Glass Co	LAKE ELSINORE	CA	90.556	90.556	-	4	4	-
Spectra Contract Flooring	SAN DIEGO	CA	89.455	89.455	-	4	4	-
Top 10 by Number of Projects								
Douglas E Barnhart Inc	SAN DIEGO	CA	383.338	344.719	38.619	34	24	10
Soltek Pacific Inc.	SAN DIEGO	CA	99.468	62.437	37.031	15	7	8
T B Penick & Sons Inc	SAN DIEGO	CA	160.972	132.334	28.638	15	10	5
Lusardi Construction Company	SAN MARCOS	CA	91.970	87.300	4.670	11	9	2
Pinnacle One / Barnhart	SAN DIEGO	CA	64.433	46.500	17.933	10	3	7
R & R Construction Company Inc	SAN MARCOS	CA	44.759	42.759	2.000	9	8	1
Randall Construction	SAN DIEGO	CA	2.880	0.999	1.881	8	2	6
Brady Co	LA MESA	CA	83.754	65.884	17.870	7	4	3
Erickson Hall Construction Co	ESCONDIDO	CA	34.949	16.700	18.249	7	2	5
Bycor General Contractors	SAN DIEGO	CA	30.313	28.313	2.000	6	5	1

**Table 7.5 Most Active Market Players in SoCalGas Territory in PY2004
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$Millions)			Number of Projects		
	City	State	Total	New Construction	Alteration	Total	New Construction	Alteration
ARCHITECTS								
Top 10 by Project Value								
Gensler & Associates	SAN FRANCISCO	CA	339.350	301.850	37.500	3	2	1
Richard D Chong & Assocs	SALT LAKE CITY	UT	140.000	140.000	-	1	1	-
Taylor & Assocs	NEWPORT BEACH	CA	111.500	-	111.500	2	-	2
Devenney Group Ltd	PHOENIX	AZ	84.500	84.500	-	3	3	-
Langdon Wilson Architecture	LOS ANGELES	CA	72.200	72.200	-	2	2	-
tBP Architects	LOS ANGELES	CA	66.578	60.703	5.875	5	4	1
Perkins & Will	LOS ANGELES	CA	65.986	64.477	1.509	2	1	1
Nadel Architects Inc.	SACRAMENTO	CA	62.690	32.000	30.690	6	3	3
Rafael Vinoly Architects	NEW YORK	NY	52.365	52.365	-	1	1	-
HMC Group	ONTARIO	CA	52.300	50.000	2.300	2	1	1
Top 10 by Number of Projects								
LPA Inc	ROSEVILLE	CA	46.417	23.480	22.937	9	3	6
J & S Consulting Engineers	BURBANK	CA	9.302	-	9.215	6	-	5
Nadel Architects Inc.	SACRAMENTO	CA	62.690	32.000	30.690	6	3	3
Tait & Associates	CONCORD	CA	12.000	2.000	10.000	6	1	5
tBP Architects	LOS ANGELES	CA	66.578	60.703	5.875	5	4	1
HOK/Hellmuth Obata & Kassabaum Inc	SAN FRANCISCO	CA	37.195	25.000	12.000	5	1	2
Flewelling & Moody Architects	PASADENA	CA	14.839	1.489	13.350	4	1	3
Lee & Sakahara	IRVINE	CA	17.125	8.075	9.050	4	3	1
MPAG Associates	ORANGE	CA	42.105	20.000	22.105	4	1	3
Thomas Blurock Architects Inc.	COSTA MESA	CA	13.494	-	13.494	4	-	4
ENGINEERS								
Top 10 by Project Value								
William J Yang & Assocs	BURBANK	CA	242.585	234.712	7.873	8	4	4
Nabih Youssef & Associates	LOS ANGELES	CA	198.291	163.622	34.669	6	4	2
Washington Group	SAINT LOUIS	MO	140.000	140.000	-	1	1	-
Washington Infrastructure Services	SAN RAMON	CA	140.000	140.000	-	1	1	-
Capital Engineering Consultants	RANCHO CORDOVA	CA	136.500	136.500	-	4	4	-
PSOMAS & Associates	LOS ANGELES	CA	136.500	136.500	-	4	4	-
John A Martin & Associates	LOS ANGELES	CA	133.936	127.749	6.187	7	4	3
The Engineering Enterprise	ALAMEDA	CA	84.500	84.500	-	3	3	-
Wheeler & Grey Inc	PASADENA	CA	80.668	74.668	6.000	5	3	2
Pacific Engineers Group Inc	NORTH HOLLYWOOD	CA	80.226	64.477	15.749	5	1	4
Top 10 by Number of Projects								
TMAD Engineering	SAN DIEGO	CA	11.279	7.556	3.723	9	4	5
Budlong & Associates	GLENDALE	CA	14.149	-	14.149	8	-	8
William J Yang & Assocs	BURBANK	CA	242.585	234.712	7.873	8	4	4
John A Martin & Associates	LOS ANGELES	CA	133.936	127.749	6.187	7	4	3
Johnson & Neilsen Associates	LOS ANGELES	CA	48.683	24.566	24.117	7	4	3
Storms & Lowe Consulting Engineers	LOS ANGELES	CA	55.343	37.710	17.633	7	2	5
Konsortium One	SANTA ANA	CA	31.704	15.480	16.224	6	2	4
KPFF Consulting Engineers	SAN FRANCISCO	CA	75.791	57.980	17.811	6	3	3
Nabih Youssef & Associates	LOS ANGELES	CA	198.291	163.622	34.669	6	4	2
J L Hengstler / TMAD	ANAHEIM	CA	8.236	-	8.236	6	-	6
GENERAL CONTRACTORS								
Top 10 by Project Value								
Hathaway Dinwiddle Construction Co	SAN FRANCISCO	CA	325.000	325.000	-	2	2	-
Shimmick Construction Co Inc./Obayashi Corp.	HAYWARD	CA	280.000	280.000	-	2	2	-
Tutor-Saliba Corp	SYLMAR	CA	156.494	156.494	-	4	4	-
PCL Construction Services Inc.	CARLSBAD	CA	124.151	93.500	30.651	4	2	2
Matt Construction	SANTA FE SPRINGS	CA	113.250	75.750	37.500	4	3	1
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	85.890	71.380	14.510	7	4	3
PMA & CCG	LOS ANGELES	CA	85.106	76.612	8.494	11	2	9
C W Driver Contractors	PASADENA	CA	80.099	74.099	6.000	6	4	2
Turner Construction	NEW YORK	NY	77.307	75.468	1.839	6	5	1
Rudolph & Sletten Inc	ROSEVILLE	CA	74.000	-	74.000	1	-	1
Top 10 by Number of Projects								
PMA & CCG	LOS ANGELES	CA	85.106	76.612	8.494	11	2	9
LE Walters Construction Company	LOS ANGELES	CA	2.346	-	1.600	10	-	4
Verizon	NORWALK	CA	33.754	-	33.754	10	-	10
Duggins Construction Inc	EL CENTRO	CA	7.629	7.037	0.272	9	6	1
Douglas E Barnhart Inc	SAN DIEGO	CA	71.911	44.411	27.500	9	7	2
Emma Corporation	SANTA MONICA	CA	22.795	-	22.795	9	-	9
Environmental Acoustics	CALABASAS	CA	11.998	-	11.998	8	-	8
Pinnacle Construction Corp	WOODLAND HILLS	CA	2.269	-	1.798	8	-	4
Sinianian Dev Co	TARZANA	CA	59.843	52.493	7.350	8	7	1
McCarthy Building Companies Inc.	SAN FRANCISCO	CA	85.890	71.380	14.510	7	4	3

APPENDIX A

GLOSSARY OF BUILDING TYPES RECORDED BY F.W. DODGE

Amusement	amusement and recreational buildings
Assembly	religious and worship buildings
Education	libraries, museums
Government	government services
Hotel	hotels and motels
Medical	hospitals and other health-related buildings
Office	office and laboratory buildings
Retail	retail stores and shopping centers
School	schools, colleges and universities, including dorms
Service	service stations
Storage	warehouses and storage facilities
Other	other nonresidential buildings

APPENDIX B

CIRB NONRESIDENTIAL NEW CONSTRUCTION PERMIT VALUE IN PY2004

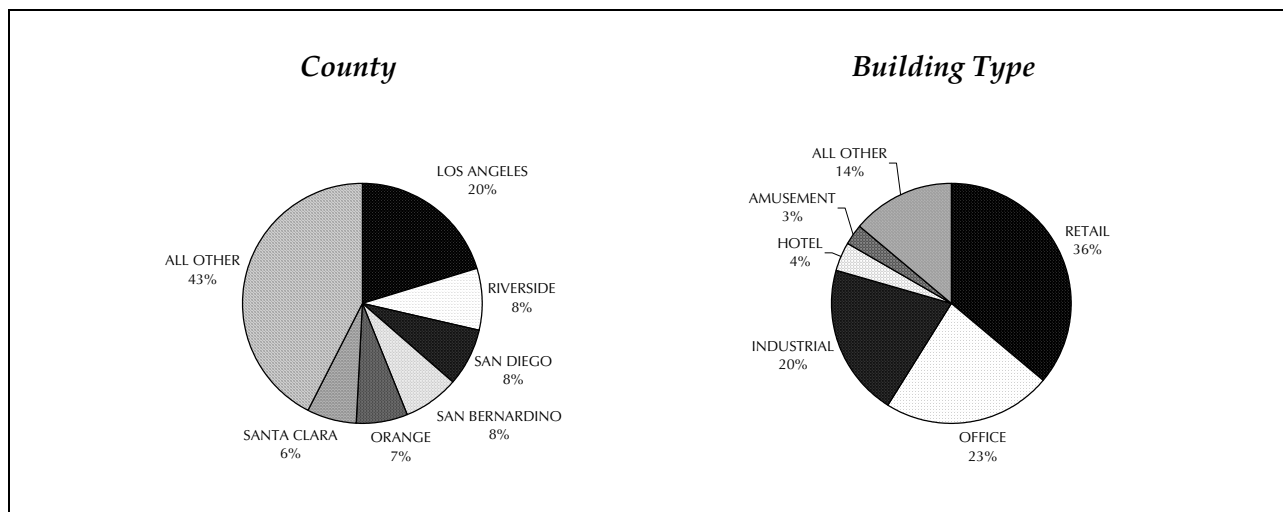
This Appendix presents information on the value of nonresidential new construction permits that were filed in PY2004 in the State of California. The data were collected by the Construction Industry Research Board from 523 city and county building departments in California.

The CIRB database separates new construction projects from additions and alterations. New construction projects are then reported by building type, while additions and alteration projects are reported together, with no indication regarding building type. Moreover, CIRB reports only building-related projects, while leaving out permits for heating, HVAC, electrical, and other remodeling/renovation projects. A glossary of building/project types recorded by CIRB is provided at the end of this Appendix.

Table B.1 summarizes the value of nonresidential *permits filed* in PY2004, by building type. As shown in Exhibit B.1 below, Los Angeles, Riverside, San Diego, San Bernardino, Orange and Santa Clara Counties account for the highest value of permits filed in the State during PY2004. Conversely, Alpine, Inyo and Sierra Counties had the lowest volume of permit activity in PY2004. Among building types, the highest permit value was recorded in the retail, office and industrial segments, but the hotel and amusement segments also show relatively high activity. The lowest permit value was recorded in the service segment.

A breakdown of project valuation by utility territory was not possible, because the CIRB reports permit activity by city and county, not by zip code.

Exhibit B.1
Market Segments with the Highest Permit Value in PY2004



**Table B.1 CIRB Statewide Nonresidential Permit Valuation in PY2004
by Building Type and County (\$1,000)**

COUNTY	AMUSEMENT	CHURCH	HOTEL	MEDICAL	OFFICE	OTHER	EDUCATION	RETAIL	SERVICE	INDUSTRIAL	TOTAL NEW	ALTERATION	TOTAL	
ALAMEDA	1,194	3,440	.	9,485	6,008	9,958	3,832	145,506	2,910	53,262	235,594	349,232	584,826	
ALPINE	.	.	.	.	.	30	.	.	.	.	30	.	30
AMADOR	.	.	.	.	.	8,185	.	.	.	.	8,185	2,033	10,218
BUTTE	.	.	13,600	.	9,553	4,909	.	15,034	314	403	43,813	17,658	61,471	
CALAVERAS	.	.	.	.	.	3,050	.	880	.	.	3,930	5,013	8,943
COLUSA	.	.	.	.	.	897	1,400	5,591	.	.	7,888	2,175	10,063
CONTRA COSTA	1,799	5,607	.	.	37,093	15,231	1,173	60,581	3,076	17,421	141,982	187,109	329,091	
DEL NORTE	.	.	.	.	449	1,181	.	.	.	.	1,630	649	2,278
EL DORADO	9,180	.	4,651	.	1,456	7,567	331	20,554	578	.	44,317	19,252	63,570	
FRESNO	.	3,471	2,273	1,347	59,147	15,454	.	41,792	238	43,491	167,212	89,669	256,881	
GLENN	.	.	.	.	1,577	1,305	.	2,435	.	.	5,317	2,398	7,715
HUMBOLDT	186	.	.	1,500	1,500	1,324	.	8,326	.	1,802	14,638	12,031	26,669	
IMPERIAL	.	1,500	.	.	2,335	2,964	.	71,377	1,033	7,688	86,897	10,488	97,385	
INYO	.	.	.	.	.	132	.	.	.	.	132	272	404
KERN	.	2,447	4,302	.	29,427	32,086	798	25,137	208	20,207	114,613	92,344	206,957	
KINGS	.	4,535	.	.	2,263	4,235	.	8,725	.	996	20,754	6,879	27,633	
LAKE	.	.	.	.	1,300	1,224	.	3,079	.	.	5,604	2,312	7,916
LASSEN	.	.	.	.	313	75	.	475	.	.	863	2,824	3,686
LOS ANGELES	50,759	25,437	63,103	43,518	306,582	75,422	18,277	483,865	10,471	178,199	1,255,634	1,403,742	2,659,376	
MADERA	.	972	.	.	2,893	4,697	.	5,297	.	1,007	14,866	6,901	21,767	
MARIN	.	.	.	.	22,938	2,131	1,734	4,982	.	.	31,785	46,185	77,970
MARIPOSA	.	.	2,773	.	122	1,531	.	.	.	.	4,426	652	5,079
MENDOCINO	.	.	2,201	2,000	251	2,116	.	1,831	276	1,980	10,656	8,515	19,171	
MERCED	.	2,980	.	.	9,619	28,980	.	7,177	533	2,357	51,645	19,637	71,282	
MODOC	.	.	.	.	.	557	.	390	.	.	947	208	1,155
MONO	.	.	16,363	.	.	289	.	.	.	.	16,652	424	17,077
MONTEREY	13,120	.	.	.	24,527	6,107	775	15,532	1,641	4,148	65,850	52,299	118,149	
NAPA	4,045	.	.	1,544	986	11,027	.	22,587	.	6,406	46,595	35,885	82,480	
NEVADA	914	640	.	.	2,120	2,814	.	1,561	291	2,566	10,906	4,820	15,726	
ORANGE	4,270	25,989	28,173	1,728	132,912	11,602	6,097	118,412	465	26,335	355,982	556,320	912,302	
PLACER	1,752	720	.	.	48,979	5,863	.	61,928	319	13,600	133,162	94,818	227,980	
PLUMAS	.	1,083	.	585	465	2,068	.	1,564	.	.	5,765	2,203	7,968	
RIVERSIDE	20,187	10,374	19,506	5,307	127,476	40,179	18,026	405,837	7,052	203,312	857,256	222,495	1,079,752	
SACRAMENTO	3,004	18,355	12,734	639	114,131	7,954	2,838	87,537	6,619	74,739	328,551	257,734	586,286	
SAN BENITO	.	.	.	.	.	1,538	.	4,782	.	.	6,319	4,983	11,302
SAN BERNARDINO	13,721	7,426	32,106	2,027	83,840	30,259	4,630	175,893	4,556	435,579	790,037	205,558	995,596	
SAN DIEGO	10,088	13,916	40,009	2,027	236,845	20,508	3,744	132,004	2,930	117,124	579,197	462,073	1,041,269	
SAN FRANCISCO	.	.	.	9,300	485	15	.	19,250	1,700	.	30,750	422,265	453,015	
SAN JOAQUIN	.	3,139	3,604	5,207	47,225	14,689	4,369	98,980	2,593	45,089	224,895	89,341	314,236	
SAN LUIS OBISPO	.	1,190	7,868	2,537	12,980	10,695	1,008	29,644	1,135	4,388	71,445	29,217	100,663	
SAN MATEO	16,304	2,800	.	1,425	57,113	13,136	1,146	16,466	1,959	5,540	115,890	199,460	315,350	
SANTA BARBARA	.	.	7,738	.	14,433	8,434	2,660	11,454	.	8,263	52,982	51,988	104,969	
SANTA CLARA	30,423	8,854	.	5,500	55,372	9,143	11,117	85,763	206	45,923	252,300	599,955	852,255	
SANTA CRUZ	2,763	.	.	.	1,188	2,259	413	1,470	789	.	8,882	21,054	29,936	
SHASTA	.	596	3,540	.	6,585	5,103	.	21,800	.	4,007	41,633	16,147	57,780	
SIERRA	.	.	.	.	.	413	.	.	.	.	413	131	544
SISKIYOU	.	.	.	.	527	2,233	.	6,880	.	.	9,641	4,435	14,075
SOLANO	.	4,081	.	.	18,028	6,869	.	40,996	457	21,827	92,257	58,326	150,584	
SONOMA	5,250	1,200	3,810	450	23,702	12,340	.	71,229	840	3,875	122,696	81,846	204,542	
STANISLAUS	.	1,625	.	34,015	53,364	25,322	1,288	42,270	3,223	18,013	179,118	55,600	234,719	
SUTTER	1,500	.	.	628	15,303	4,112	.	6,687	146	14,290	42,666	6,971	49,637	
TEHAMA	.	1,030	4,455	.	2,164	4,325	.	15,874	1,200	.	29,049	5,889	34,938	
TRINITY	.	.	.	.	.	579	.	184	.	.	763	783	1,546
TULARE	2,998	3,500	.	.	17,121	28,565	1,477	41,326	1,083	3,406	99,477	32,922	132,399	
TUOLUMNE	.	1,366	358	1,097	2,094	2,379	.	2,358	636	489	10,776	2,501	13,278	
VENTURA	9,354	.	.	5,647	18,071	8,697	5,908	90,279	621	45,495	184,072	118,626	302,698	
YOLO	13,720	9,178	.	15,294	1,306	.	19,170	58,668	33,203	91,871
YUBA	.	.	.	.	.	612	.	1,663	.	3,881	6,157	8,115	14,271
CALIFORNIA	202,811	158,273	273,169	137,512	1,626,583	534,547	93,041	2,560,540	61,405	1,456,281	7,104,160	6,026,568	13,130,728	

Tables B.2 and B.3 present quarterly permit activity, by county and building type. According to these data, there is little variation from quarter to quarter in the volume of permit activity for the entire market, as well as geographically and by building type.

**Table B.2 CIRB Nonresidential Permit Valuation in PY2004
by Quarter and County (\$1,000)**

COUNTY	NEW CONSTRUCTION					ADDITIONS AND ALTERATIONS					2004 TOTAL
	Q1, 2004	Q2, 2004	Q3, 2004	Q4, 2004	2004 Total	Q1, 2004	Q2, 2004	Q3, 2004	Q4, 2004	2004 Total	
ALAMEDA	51,761	89,995	53,854	39,984	235,594	93,424	87,674	86,320	81,814	349,232	584,826
ALPINE	0	0	30	0	30	.	.	.	.	0	30
AMADOR	415	2,346	2,515	2,908	8,185	233	587	316	897	2,033	10,218
BUTTE	10,403	13,300	15,289	4,822	43,813	5,483	4,603	4,118	3,454	17,658	61,471
CALAVERAS	550	900	2,020	460	3,930	1,167	1,183	1,337	1,326	5,013	8,943
COLUSA	3,565	3,578	687	58	7,888	199	1,365	421	191	2,175	10,063
CONTRA COSTA	14,208	40,373	42,178	45,222	141,982	45,052	50,514	56,427	35,116	187,109	329,091
DEL NORTE	527	586	281	236	1,630	78	88	434	49	649	2,278
EL DORADO	6,662	15,850	11,309	10,496	44,317	3,895	9,178	4,008	2,171	19,252	63,570
FRESNO	35,690	54,171	31,482	45,870	167,212	22,883	20,962	25,429	20,396	89,669	256,881
GLENN	2,060	1,759	290	1,209	5,317	500	863	689	345	2,398	7,715
HUMBOLDT	5,394	6,323	2,161	760	14,638	2,530	2,720	2,623	4,158	12,031	26,669
IMPERIAL	31,308	18,584	20,217	16,789	86,897	1,099	1,842	2,869	4,678	10,488	97,385
INYO	122	0	0	10	132	39	147	42	44	272	404
KERN	25,801	29,348	38,378	21,086	114,613	18,633	18,171	23,120	32,419	92,344	206,957
KINGS	7,408	3,545	8,531	1,269	20,754	1,428	1,326	2,549	1,576	6,879	27,633
LAKE	1,892	2,873	356	483	5,604	475	463	782	593	2,312	7,916
LASSEN	343	475	44	0	863	689	803	1,009	323	2,824	3,686
LOS ANGELES	236,836	375,530	317,701	325,568	1,255,634	345,593	337,316	393,596	327,236	1,403,742	2,659,376
MADERA	1,178	3,443	5,994	4,250	14,866	2,063	991	1,791	2,056	6,901	21,767
MARIN	9,774	800	19,115	2,096	31,785	7,254	21,896	10,652	6,383	46,185	77,970
MARIPOSA	3,147	976	159	144	4,426	381	161	93	17	652	5,079
MENDOCINO	627	5,519	1,649	2,861	10,656	2,346	1,577	2,269	2,323	8,515	19,171
MERCED	6,035	25,830	12,861	6,919	51,645	2,115	3,726	5,437	8,359	19,637	71,282
MODOC	121	452	173	201	947	134	66	.	8	208	1,155
MONO	0	59	230	16,363	16,652	31	96	227	70	424	17,077
MONTEREY	21,535	15,715	15,818	12,783	65,850	11,173	13,736	14,602	12,788	52,299	118,149
NAPA	12,193	9,280	16,024	9,098	46,595	9,084	12,682	4,986	9,133	35,885	82,480
NEVADA	2,044	3,508	3,311	2,043	10,906	533	1,457	1,480	1,351	4,820	15,726
ORANGE	93,631	89,363	123,837	49,150	355,982	124,962	149,217	161,191	120,951	556,320	912,302
PLACER	23,406	33,937	44,308	31,511	133,162	24,219	18,958	20,664	30,978	94,818	227,980
PLUMAS	791	1,060	2,924	989	5,765	120	485	517	1,080	2,203	7,968
RIVERSIDE	175,725	453,378	90,536	137,617	857,256	51,573	77,423	48,093	45,406	222,495	1,079,752
SACRAMENTO	66,961	100,122	95,096	66,373	328,551	51,810	78,083	61,811	66,031	257,734	586,286
SAN BENITO	180	1,012	839	4,289	6,319	729	3,284	899	72	4,983	11,302
SAN BERNARDINO	175,622	153,538	192,061	268,817	790,037	27,177	53,915	74,212	50,255	205,558	995,596
SAN DIEGO	109,730	155,497	240,936	73,034	579,197	101,508	130,195	143,109	87,260	462,073	1,041,269
SAN FRANCISCO	490	7,800	14,150	8,310	30,750	99,297	115,013	127,382	80,573	422,265	453,015
SAN JOAQUIN	54,282	61,852	68,532	40,229	224,895	15,887	24,676	22,579	26,199	89,341	314,236
SAN LUIS OBISPO	15,126	20,121	27,280	8,918	71,445	7,027	7,394	8,541	6,255	29,217	100,663
SAN MATEO	10,189	11,736	15,686	78,278	115,890	38,318	65,179	52,004	43,959	199,460	315,350
SANTA BARBARA	9,930	14,918	13,911	14,222	52,982	10,187	9,549	11,502	20,750	51,988	104,969
SANTA CLARA	44,608	36,740	95,356	75,596	252,300	118,681	159,411	172,709	149,155	599,955	852,255
SANTA CRUZ	2,075	1,131	2,163	3,513	8,882	4,240	6,401	7,119	3,293	21,054	29,936
SHASTA	4,968	7,130	9,271	20,264	41,633	2,512	7,648	4,712	1,274	16,147	57,780
SIERRA	27	138	238	9	413	1	27	83	20	131	544
SISKIYOU	384	1,345	7,524	387	9,641	1,141	712	1,303	1,280	4,435	14,075
SOLANO	20,681	23,681	25,640	22,256	92,257	12,453	15,062	10,167	20,644	58,326	150,584
SONOMA	12,763	37,779	45,105	27,050	122,696	27,825	20,093	20,276	13,653	81,846	204,542
STANISLAUS	24,176	45,687	33,019	76,236	179,118	12,424	16,860	12,797	13,519	55,600	234,719
SUTTER	4,354	10,625	9,832	17,855	42,666	948	1,259	3,368	1,396	6,971	49,637
TEHAMA	3,017	13,690	6,571	5,771	29,049	1,714	1,222	2,616	338	5,889	34,938
TRINITY	0	50	369	344	703	532	3	114	134	783	1,546
TULARE	30,735	22,070	17,005	29,667	99,477	8,649	8,964	8,680	6,629	32,922	132,399
TUOLUMNE	2,780	3,496	3,096	1,405	10,776	632	910	460	499	2,501	13,278
VENTURA	32,215	46,009	43,965	61,882	184,072	27,749	28,401	27,761	34,715	118,626	302,698
YOLO	12,429	16,840	12,851	16,548	58,668	3,736	7,918	11,470	10,078	33,203	91,871
YUBA	742	1,693	3,723	0	6,157	863	864	1,011	5,377	8,115	14,271
CALIFORNIA	1,423,617	2,097,557	1,868,477	1,714,509	7,104,160	1,355,429	1,605,319	1,664,776	1,401,043	6,026,568	13,130,728

**Table B.3 CIRB Nonresidential Permit Valuation in PY2004
by Quarter and Building Type (\$1,000)**

	AMUSEMENT	CHURCH	HOTEL	MEDICAL	OFFICE	OTHER	EDUCATION	RETAIL	SERVICE	INDUSTRIAL	TOTAL NEW	ALTERATION	TOTAL
CALIFORNIA													
Q1, 2004	40,630	35,204	91,397	22,360	322,544	101,934	22,440	560,411	13,240	213,458	1,418,478	1,355,429	2,773,907
Q2, 2004	22,056	50,739	48,410	18,270	432,048	142,158	28,485	858,856	21,700	474,833	1,657,620	1,605,319	3,262,939
Q3, 2004	56,971	42,324	77,579	61,553	539,577	153,094	33,606	542,415	10,664	350,694	1,731,303	1,664,776	3,396,079
Q4, 2004	83,155	30,006	55,783	35,328	332,414	137,360	8,510	598,858	15,800	417,296	1,514,797	1,401,043	2,915,840
2004 Total	202,811	158,273	273,169	137,512	1,626,583	534,547	93,041	2,560,540	61,405	1,456,281	7,104,160	6,026,568	13,130,728

GLOSSARY OF BUILDING/PROJECT TYPES RECORDED BY CIRB

Amusement	amusement and recreational buildings
Church	churches and religious buildings
Hotel	hotels and motels
Medical	hospitals and institutional buildings
Office	office and bank buildings
Other	other nonresidential buildings
Education	schools, colleges, universities, libraries, museums
Retail	stores and other mercantile buildings
Service	service stations
Industrial	manufacturing plants and affiliated buildings
Alterations	alterations, additions, and conversions to nonresidential structures (excludes special installation permits for electrical, plumbing, heating, AC, or similar mechanical work, or installation of fire escapes, elevators, signs, etc.)

APPENDIX C

CEC ZIP CODE-TO-UTILITY TERRITORY MAPPING

California Energy Commission's zip code-to-utility territory mapping consists of a list of 2,671 zip codes corresponding to 1,410 cities in California. In this list, each zip code is mapped to one of 16 territory zones. In turn, the territory zones correspond to utility territories as follows.

Zones 1 – 5 are in PG&E territory

Zone 6 is in SMUD territory

Zones 7 – 10 are in SCE territory

Zones 11 and 12 are in LADWP territory

Zone 13 is in SDG&E territory

Zones 14 – 16 comprise the Other Service area

To identify the utility territory based on zip code, the zip code must be first used to identify the territory zone, which then corresponds to a utility territory.

Note that the territory zones defined for this purpose by the CEC are not the same as the California Climate Zones.

SoCalGas's CIS was used to obtain a comprehensive list of zip codes served by SoCalGas. Using this list, as well as the CEC mapping, a list of zip codes was developed that are served by SoCalGas, but not by any other IOU. This list includes zip codes for the LADWP territory, as well as for several other electrical MUNIs, and is consistent with the territory in which SoCalGas's Savings By Design program offers incentives for electric measures.

APPENDIX D

GLOSSARY OF MEASURES IMPLEMENTED BY SBD PARTICIPANTS

Whole Building	Measures installed as part of the whole building approach
Whole Building + Refrigeration	Measures installed in grocery and other big box stores through the whole building “alternative delivery method”.
Daylighting	Daylighting measures
Skylight	Skylights
HVAC chiller	High-efficiency chillers
HVAC unitary	High-efficiency package or split systems
HVAC controls	Controls for HVAC systems
HVAC other	Other measures labeled as “HVAC”, such as air handling units, pumps, variable speed drives and motors
Motors	High-efficiency motors and other measures labeled as “motors”, with the exception of HVAC motors
Lighting	Lighting measures, including lighting power density reduction
Envelope	Envelope measures, including insulation and windows
Process + Other	Process cooling and pumps, variable frequency drives and adjustable speed drives that are not specifically labeled “HVAC” or “motors”, controls that are not specifically labeled “HVAC” or “motors”, gas measures such as boilers, furnaces and water heating, and measures labeled “other” or “miscellaneous”.