



***NRNC MARKET CHARACTERIZATION AND  
PROGRAM ACTIVITIES TRACKING REPORT  
PY2002***

***FINAL***

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## 1. EXECUTIVE SUMMARY

This section presents a summary of the 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 2002.

### 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 2002, and summarized to describe nonresidential construction value and volume, building types, building size, and design team characteristics were produced statewide, and by investor owned utility (IOU) territory. The current report, as well as previous reports produced in PY2000-2001 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 2002 is presented in Table 1.1 and in Exhibit 1.1.

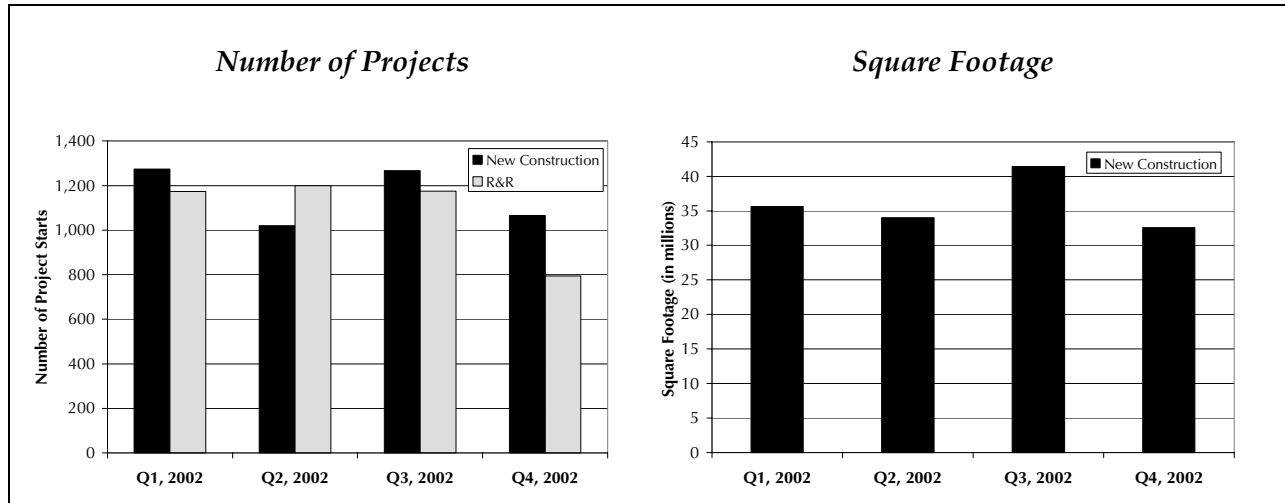
**Table 1.1 Market Summary of Project Starts in California**

Project Type	Quarter	Value (\$ billions)	Area (millions of sqft)	Number of Projects
New and additions	Q1, 2002	2.741	35.61	1,273
	Q2, 2002	3.164	34.01	1,020
	Q3, 2002	3.562	41.45	1,267
	Q4, 2002	3.423	32.55	1,066
	Subtotal	12.890	143.62	4,626
Alterations	Q1, 2002	0.827	-	1,174
	Q2, 2002	0.856	-	1,200
	Q3, 2002	0.876	-	1,175
	Q4, 2002	0.672	-	794
	Subtotal	3.230	-	4,343
<b>Total</b>		<b>16.121</b>	<b>-</b>	<b>8,969</b>

F.W. Dodge data indicate that there were over 8,900 nonresidential projects that started construction in California in calendar year 2002, almost equally divided between new

construction and alteration projects. The value of new construction projects, however, was approximately four times greater than of alterations. There was little variation in the overall market activity from quarter to quarter, as well as geographically and by building type.

**Exhibit 1.1**  
**F.W. Dodge Nonresidential Project Starts by Quarter in 2002**



## 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 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, retail, school and storage. Among the measures installed by program participants, unitary HVAC systems and lighting measures are the most popular. However, whole building design accounts for the highest estimated energy savings in new construction projects, and lighting and “other HVAC” measures (VSDs, motors) produce the highest estimated energy savings in R&R projects.

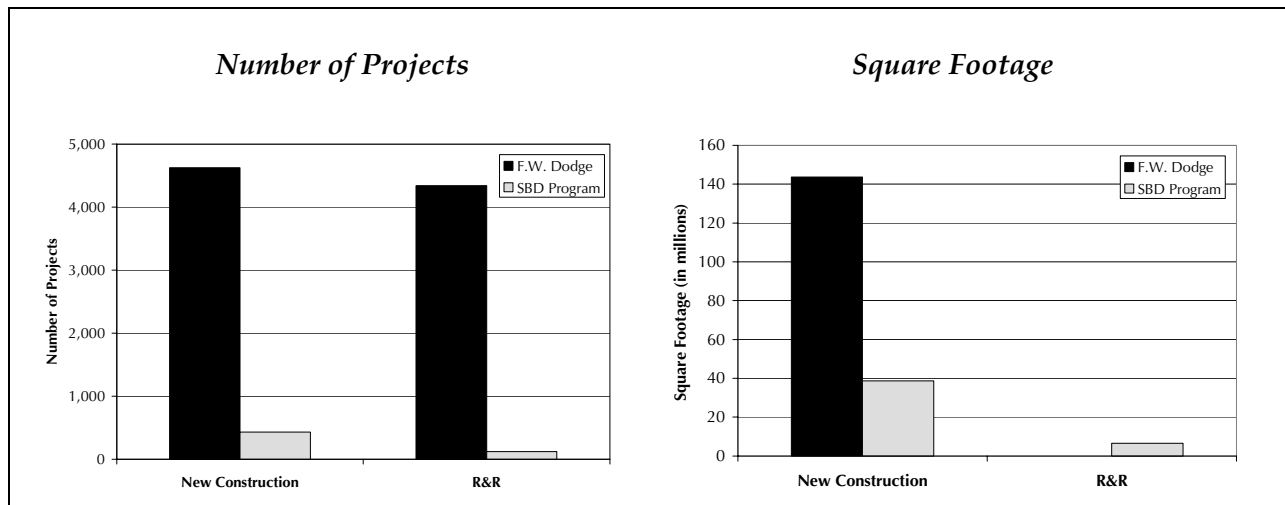
The SBD program data were used in conjunction with the NRNC market data collected in the first part of the Study to prepare quarterly SBD program tracking and penetration analysis reports. A summary of statewide program activity is presented in Table 1.2. Exhibit 1.2 shows program penetration results for calendar year 2002.

**Table 1.2 Summary of Statewide SBD Program Activity**

Project Type	Quarter	Area (millions of sqft)	Number of Participants
New and additions	Q1, 2002	4.08	36
	Q2, 2002	7.39	61
	Q3, 2002	7.83	92
	Q4, 2002	19.33	246
	Subtotal	38.63	435
Alterations (R&R)	Q1, 2002	0.89	13
	Q2, 2002	0.90	18
	Q3, 2002	1.95	43
	Q4, 2002	2.91	53
	Subtotal	6.65	127
<b>Total</b>		<b>45.28</b>	<b>562</b>

Program penetration results for PY2002 indicate that the SBD program captured 9.4% of the nonresidential new construction projects and 2.9% of the R&R projects. By square footage, program penetration into the new construction market is 26.9%, indicating that the program is reaching 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 2002**



### 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 2002 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%
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%

Between mid-1999 and the end of 2002, market activity was relatively stable with respect to the number of projects starting construction per year. The high participation rates in 2001 may be due to changes in building codes and Program standards that went into effect on July 1, 2001, but also to the overall conservation efforts undertaken in California prior to, and during the Summer of 2001. Following the trend of the market in California, 2002 was a slightly less active than the 3.5-year average with respect to the number of projects that started construction. In terms of square footage of new construction, the NRNC market building rate dropped by approximately 20% in 2002 as compared to the previous two years.

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

## 2. INTRODUCTION

The statewide Market Characterization and Program Activity Tracking (MCPAT) Study was commissioned to track trends in the nonresidential new construction (NRNC) market, as well as participation in the Savings By Design statewide NRNC program. 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 2002.

### 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 more than 515 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 are attributable to the time delay that naturally occurs between permit filing and construction start. Others are attributable to the fact that F.W. Dodge records publicly-bid projects, whereas some projects do not go to public bid. Appendix B summarizes the value of nonresidential *permits filed* in PY2002, 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 PY2002, 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 PY2002.

Chapter 4 presents the market characteristics for alteration projects, as described by F.W. Dodge. It then describes program participation in PY2002 for the renovation/remodel/first tenant improvement (R&R) element of the SBD program.

An evaluation of SBD program penetration into the market in PY2002 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 and engineers) in PY2002.



### 3. STATEWIDE NONRESIDENTIAL NEW CONSTRUCTION TRENDS

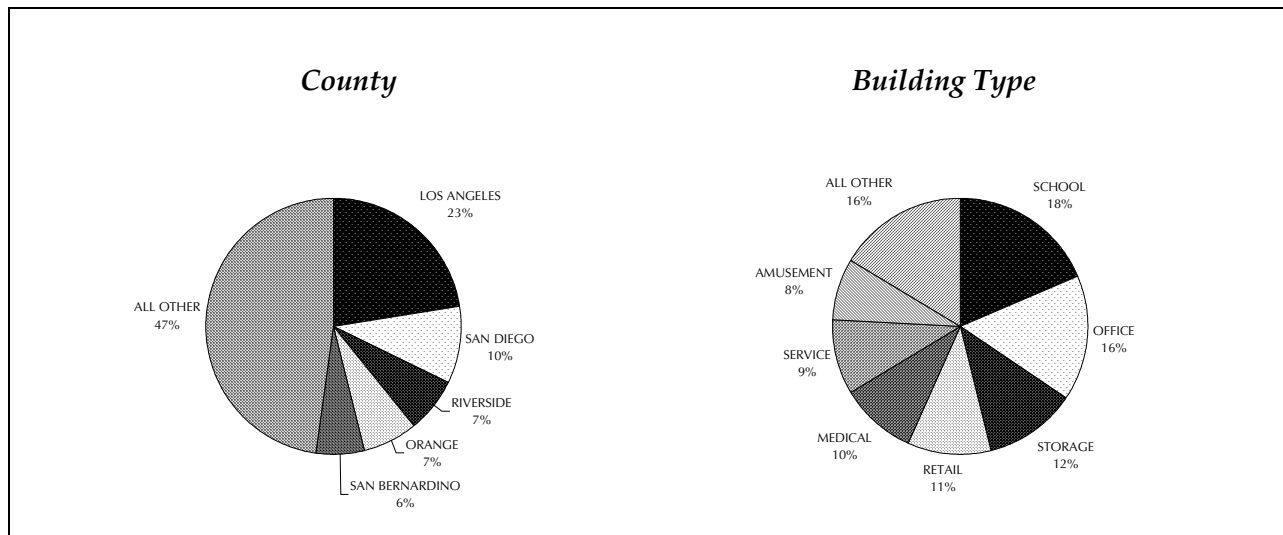
This chapter presents information on the nonresidential new construction activity that has occurred in PY2002, in the State of California. The first section covers the total valuation, the number of project starts, and the total square footage of new construction projects by county, as reported by F.W. Dodge. The second section analyzes the Savings By Design (SBD) program activity for new construction projects for which the IOUs have committed funds in PY2002.

#### 3.1 NEW CONSTRUCTION MARKET CHARACTERISTICS IN PY2002

The following exhibits 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 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.

Table 3.1 presents the F.W. Dodge valuation for nonresidential new construction projects that have started construction during PY2002. 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.

*Exhibit 3.1  
New Construction Market Segments with the Highest Project Start Valuation in PY2002*

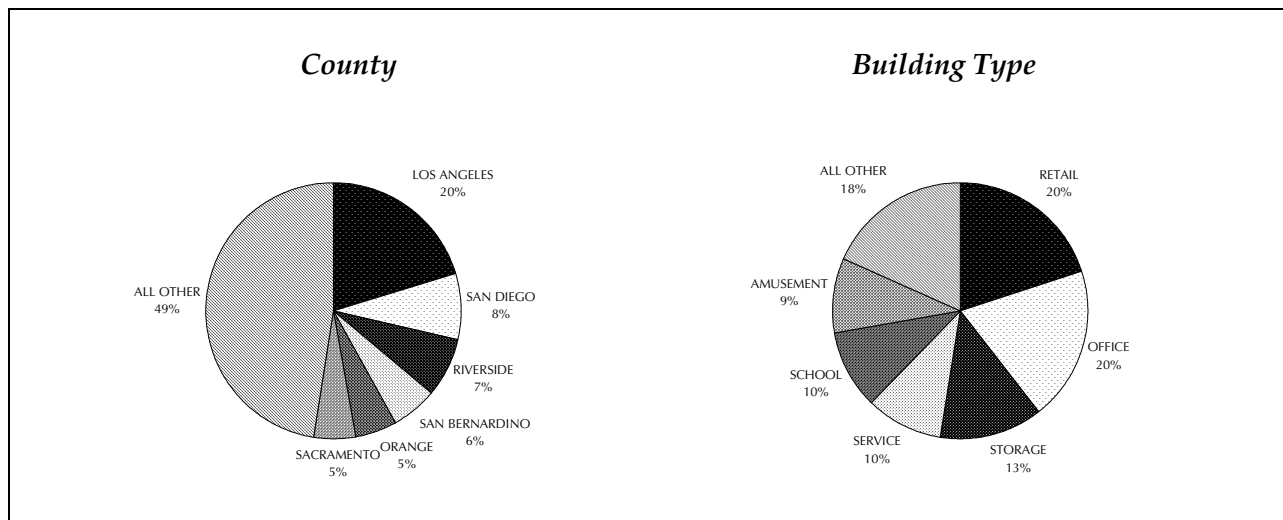


As shown in Exhibit 3.1 above, Los Angeles, San Diego, Riverside, Orange, and San Bernardino Counties account for the highest value of projects that *have started construction* in PY2002. F.W. Dodge did not report any project starts in PY2002 in Amador, Mariposa, Modoc, Sierra and Trinity Counties. Among building types, school, office, storage and retail account for the highest project start valuation, but medical, service and amusement also show relatively high market activity. The assembly (churches) segment accounts for the lowest project start value.

Among utility territories, PG&E accounts for the largest project start value in PY2002, a large fraction of which is concentrated in the office and school segments. SCE follows closely, with a large fraction of the project value concentrated in the storage and school segments. In the SDG&E and SoCalGas service territories, the office and school segments account for the highest 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. A large fraction of the Non-IOU project value is concentrated in the office, school and service segments.

Table 3.2 presents the number of nonresidential new construction and addition projects that have started construction in PY2002, as reported by F.W. Dodge. As shown in Exhibit 3.2 below, Los Angeles, San Diego, Riverside, San Bernardino, Orange and Sacramento Counties have the highest number of new construction project starts. Among building types, office, retail, storage, service and school account for the highest number of project starts, while the education segment (museums, libraries) accounts for the lowest number of project starts in PY2002. Among utility territories, PG&E leads with the highest number of project starts, closely 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, comparable to the number in SDG&E and SoCalGas territories together.

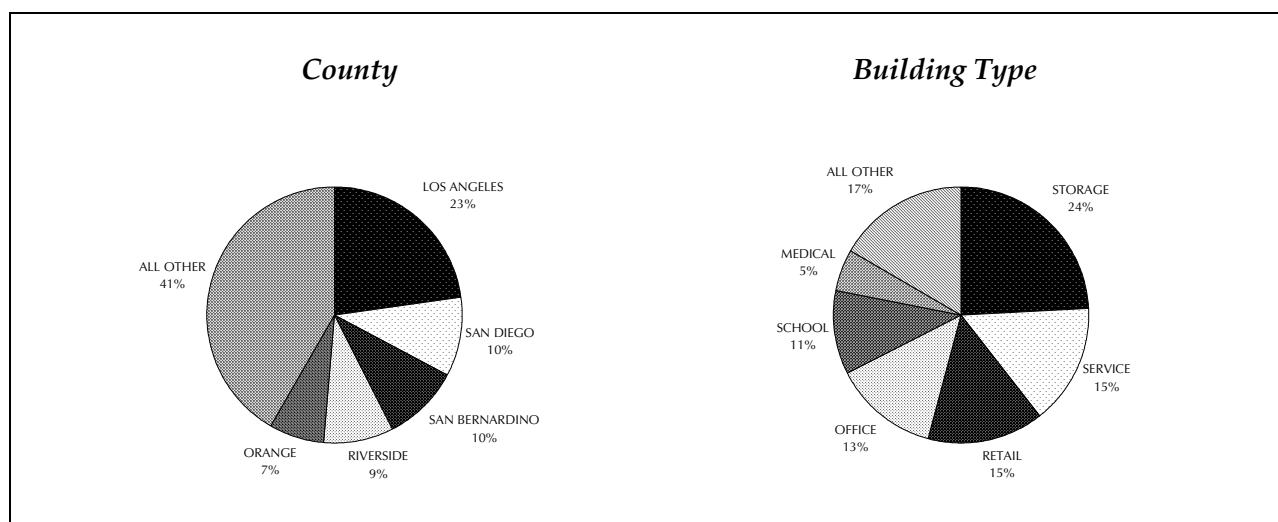
**Exhibit 3.2**  
***New Construction Market Segments with the Highest Number of Project Starts in PY2002***



Tables 3.3 and 3.4 summarize quarterly project starts by county and building type. There is little variation from quarter to quarter in the number of project starts by segment.

Table 3.5 presents the number of square feet of nonresidential new construction and addition projects that have started construction in PY2002, as reported by F.W. Dodge. 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 Diego, San Bernardino, Riverside and Orange. The storage, service, retail and office segments account for large square footage of new space, while the education segment (museums, libraries) accounts for the least amount of new space built in PY2002.

**Exhibit 3.3**  
**New Construction Market Segments with the Highest Square Footage in PY2002**



Among utility territories, SCE accounts for the largest number of new square feet built in PY2002, almost half of which is concentrated in the retail, school, service and office segments. PG&E follows closely, with over half of the square footage concentrated in the same segments. In the SDG&E service territory, the office and service segments account for the highest square footage built, while in SoCalGas territory the service and school segments account for almost one-half 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 PY2002. A large fraction of the Non-IOU project area is concentrated in the service, storage and office segments.

Tables 3.6 and 3.7 summarize quarterly square feet of nonresidential new construction built, by county and building type. Again, the volume of new space built does not change much from quarter to quarter, either geographically or by building type.

**Table 3.1 F.W. Dodge Valuation of New Construction Project Starts in PY2002  
by Building Type, County and Service Territory (\$1,000)**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	24,060	10,059	32,287	8,242	10,636	22,097	213,416	24,780	101,237	23,429	23,126	5,149	498,518
ALPINE	1,142				5,000								6,142
AMADOR													0
BUTTE	8,937	2,350				7,100	24,365	975	779		10,931	598	56,035
CALAVERAS						333	669				648	2,910	4,560
COLUSA	5,000					1,759							6,759
CONTRA COSTA	32,185	8,898	92	2,131	3,200	18,630	54,536	51,947	22,426	41,154	40,716	15,107	291,022
DEL NORTE	1,968												1,968
EL DORADO	809	2,568				6,517	7,458	17,511	26,365	6,554	750	1,553	70,085
FRESNO	105,210	5,169	2,515			333,549	32,280	23,827	29,100	11,191	16,743	108,034	667,618
GLENN					3,000								3,000
HUMBOLDT						1,900		1,000			189		3,089
IMPERIAL	4,653	2,155	540		2,000	1,324	7,189	9,997	26,048	468	426	1,282	56,082
INYO							1,500		2,520				4,020
KERN	11,894	809	7,500	203,622	4,381	23,550	4,512	17,427	41,738	1,196	39,077	15,892	371,598
KINGS	1,447	80	774			358	871	5,219	9,846		3,521		22,116
LAKE	80							121	1,813		594	144	2,752
LASSEN				1,500			997						2,497
LOS ANGELES	157,879	44,046	103,818	84,602	52,919	410,409	307,506	380,476	471,929	529,026	268,785	102,777	2,914,172
MADERA	30,131	280				1,476	114				3,000		35,001
MARIN	6,672		6,500	194		3,419	198		1,421		91		18,495
MARIPOSA													0
MENDOCINO	924					2,096	768	1,500	22,835	900			29,023
MERCED	3,531	4,676		15,929			25,107	300	15,000	884	2,509	2,358	70,294
MODOC													0
MONO	953							4,500	13,800		4,000		23,253
MONTEREY	7,882		624		8,456	1,250	2,513	7,549	13,276	1,189	3,772	3,986	50,497
NAPA	2,306	1,300			16,580	13,200	5,500	5,443			1,730	6,241	52,300
NEVADA	2,389			709			1,324		2,466	388		84	9,692
ORANGE	54,301	40,566	3,500	76,638	35,250	99,567	192,130	108,545	145,272	53,946	70,097	11,823	891,635
PLACER	65,735	29,732		3,324	7,500	18,489	54,499	71,200	38,409	11,463	18,829	7,084	326,264
PLUMAS	246					81	268	170		90	4,180	1,175	6,210
RIVERSIDE	34,357	11,265	3,083	16,519	24,780	30,289	74,106	126,625	315,160	24,337	225,145	32,269	917,935
SACRAMENTO	48,688	10,486			24,592	34,721	207,259	69,904	155,132	112,843	56,987	6,054	726,666
SAN BENITO							250	7,229			923		8,402
SAN BERNARDINO	14,786	24,139	13,091	17,089	9,535	21,682	51,782	86,091	65,867	14,666	452,749	12,366	783,843
SAN DIEGO	69,384	7,887	21,426	39,160	111,031	69,386	331,662	88,351	277,308	121,525	85,506	9,253	1,231,879
SAN FRANCISCO	55,181		149,000	2,913	115	12,708	85,700	4,399	8,000	77,037	2,163	7,658	404,874
SAN JOAQUIN	5,589	1,515	377	12,948	7,500	3,574	4,186	39,163	59,966	10,896	53,435	13,632	212,781
SAN LUIS OBISPO	1,432	1,407		1,240	4,937	4,521	38,007	10,480	2,772	5,717	9,315	11,747	91,575
SAN MATEO	28,161	3,000		6,025	13,832	5,699	8,798	26,536	11,017	16,219	7,831	1,500	128,618
SANTA BARBARA	74,800	150		15,518	11,675	6,335	35,439	3,763	27,592	2,439	15,653	8,598	201,962
SANTA CLARA	57,691	11,581	55,080	23,313	18,000	10,856	136,181	32,225	154,311	101,973	4,089	20,548	625,848
SANTA CRUZ	800				10,000		553	675	77,962	2,960			92,950
SHASTA	4,011	2,300					9,094	2,500	336	5,326	310		23,877
SIERRA													0
SISKIYOU	735		350		3,178		1,387	122		833	449	366	7,420
SOLANO	8,377	2,925	7,000	10,337	7,500	4,700	19,475	7,488	22,457	3,902	1,533		95,694
SONOMA	3,472			3,390	7,500	17,151	18,014	22,223	37,423	5,952	7,897	7,442	130,464
STANISLAUS	7,467			2,098		8,240	8,532	10,163	13,476	1,865	10,044	19,950	81,835
SUTTER		600		1,199		2,180	1,205	135	27,451	480	2,427		35,677
TEHAMA	623		295				145		497	4,800	90		6,450
TRINITY													0
TULARE	14,190	842	2,000	1,882		3,400	4,327	17,947	25,188		6,269	4,035	80,080
TUOLUMNE		1,500					875	125				299	2,799
VENTURA	18,517	4,829	8,033		11,500	38,791	43,450	77,730	50,362	6,615	33,847	7,928	301,602
YOLO	32,203	3,900		11,000	3,000		5,103	20,445	74,571		19,537	24,147	193,906
YUBA	8,358												8,358
CALIFORNIA	1,019,156	241,014	417,885	561,522	417,597	1,241,337	2,023,000	1,379,827	2,400,357	1,202,263	1,512,245	473,989	12,890,192
UTILITY													
SCE	207,941	69,721	39,407	285,396	105,684	394,893	406,971	607,705	745,326	249,451	906,895	96,507	4,115,897
PG&E	612,824	95,105	233,932	116,170	114,548	509,490	698,371	402,809	745,218	298,397	296,801	277,807	4,401,472
SDG&E	73,811	16,887	21,426	39,160	111,031	69,386	347,496	111,562	302,441	122,525	83,935	9,253	1,308,913
SoCalGas	50,284	14,334	70,745	51,721	15,232	193,798	218,855	79,840	276,649	186,998	83,697	70,681	1,312,834
Non-IOU	74,296	44,967	52,375	69,075	71,102	73,770	351,307	177,911	330,723	344,892	140,917	19,741	1,751,076

**Table 3.2 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2002 by Building Type, County and Service Territory**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	12	4	3	4	4	7	46	30	18	14	14	6	162
ALPINE	1	.	.	.	1	.	.	.	.	.	.	.	2
AMADOR	.	.	.	.	.	.	.	.	.	.	.	.	0
BUTTE	6	3	.	.	.	3	27	3	2	.	8	3	55
CALAVERAS	.	.	.	.	.	1	2	.	.	.	1	2	6
COLUSA	1	.	.	.	.	1	.	.	.	.	.	.	2
CONTRA COSTA	15	6	1	2	1	3	17	25	11	7	16	8	112
DEL NORTE	2	.	.	.	.	.	.	.	.	.	.	.	2
EL DORADO	4	3	.	.	.	3	17	8	6	1	4	5	51
FRESNO	6	6	2	.	.	12	27	17	17	4	20	6	117
GLENN	.	.	.	.	1	.	.	.	.	.	.	.	1
HUMBOLDT	.	.	.	.	.	1	.	1	.	.	1	.	3
IMPERIAL	7	5	1	.	1	3	9	8	6	2	3	4	49
INYO	.	.	.	.	.	.	1	.	2	.	.	.	3
KERN	10	3	1	8	2	9	14	16	10	4	24	17	118
KINGS	2	1	1	.	.	1	2	3	3	.	2	.	15
LAKE	1	.	.	.	.	.	.	1	1	.	1	1	5
LASSEN	.	.	.	1	.	.	1	.	.	.	.	.	2
LOS ANGELES	77	33	14	13	19	40	136	211	88	165	104	42	942
MADERA	3	1	.	.	.	1	1	.	.	.	1	.	7
MARIN	6	.	1	1	.	2	2	.	1	.	1	.	14
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	.	0
MENDOCINO	3	.	.	.	.	2	1	1	3	1	.	.	11
MERCED	2	3	.	1	.	.	7	1	1	2	4	5	26
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	1	.	.	.	.	.	.	2	2	.	1	.	6
MONTEREY	6	.	1	.	3	1	7	10	7	1	7	6	49
NAPA	6	2	.	.	3	4	2	4	.	.	3	11	35
NEVADA	3	.	.	2	.	.	3	.	1	2	3	1	15
ORANGE	19	10	2	10	4	14	49	63	22	24	22	8	247
PLACER	9	3	.	2	1	9	30	34	6	17	12	3	126
PLUMAS	1	.	.	.	.	1	1	2	.	1	6	1	13
RIVERSIDE	18	11	1	5	7	13	61	83	43	21	68	15	346
SACRAMENTO	24	9	.	.	5	8	49	54	32	25	25	8	239
SAN BENITO	.	.	.	.	.	.	.	1	1	.	1	.	3
SAN BERNARDINO	16	8	3	8	6	8	37	63	18	15	75	16	273
SAN DIEGO	42	10	6	4	8	15	83	73	54	42	30	12	379
SAN FRANCISCO	10	.	2	1	1	5	45	23	2	21	5	4	119
SAN JOAQUIN	6	3	1	2	1	4	11	20	11	9	30	16	114
SAN LUIS OBISPO	5	2	.	2	6	8	31	11	3	5	17	13	103
SAN MATEO	13	1	.	3	2	3	17	8	4	6	5	1	63
SANTA BARBARA	15	1	.	2	3	3	20	8	5	5	15	12	89
SANTA CLARA	32	5	11	2	2	5	59	46	32	29	4	7	234
SANTA CRUZ	3	.	.	.	1	.	2	2	7	2	.	.	17
SHASTA	3	1	.	.	.	.	3	1	1	3	1	.	13
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	2	.	1	.	2	.	3	1	.	1	3	2	15
SOLANO	6	3	1	2	1	2	7	5	5	4	2	.	38
SONOMA	5	.	.	2	1	5	13	16	6	6	5	5	64
STANISLAUS	5	.	.	1	.	2	18	16	2	4	24	8	80
SUTTER	.	1	.	1	.	2	2	1	3	2	3	.	15
TEHAMA	1	.	1	.	.	.	1	.	1	2	1	.	7
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	7	2	1	1	.	3	15	9	8	.	11	3	60
TUOLUMNE	.	1	.	.	.	.	3	1	.	.	.	2	7
VENTURA	14	6	2	.	1	7	18	32	9	11	11	6	117
YOLO	6	2	.	1	1	.	5	6	3	.	4	6	34
YUBA	1	.	.	.	.	.	.	.	.	.	.	.	1
CALIFORNIA	437	149	57	81	88	211	905	920	457	458	598	265	4,626
UTILITY													
SCE	99	44	9	37	30	66	222	325	123	118	214	70	1,357
PG&E	197	54	21	29	27	87	408	304	156	135	215	133	1,766
SDG&E	49	12	6	4	8	15	85	81	61	43	29	12	405
SoCalGas	25	12	10	5	7	16	40	71	41	58	28	15	328
Non-IOU	67	27	11	6	16	27	150	139	76	104	112	35	770

**Table 3.3 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2002 by Quarter, County and Service Territory**

	Q1, 2002	Q2, 2002	Q3, 2002	Q4, 2002	2002 Total
<b>COUNTY</b>					
ALAMEDA	50	35	44	33	162
ALPINE	0	1	1	0	2
AMADOR	0	0	0	0	0
BUTTE	16	11	18	10	55
CALAVERAS	0	3	3	0	6
COLUSA	0	2	0	0	2
CONTRA COSTA	28	31	32	21	112
DEL NORTE	0	0	0	2	2
EL DORADO	11	19	13	8	51
FRESNO	25	30	34	28	117
GLENN	0	1	0	0	1
HUMBOLDT	0	1	1	1	3
IMPERIAL	14	11	11	13	49
INYO	1	1	1	0	3
KERN	43	18	32	25	118
KINGS	4	5	3	3	15
LAKE	1	2	2	0	5
LASSEN	0	1	1	0	2
LOS ANGELES	273	220	257	192	942
MADERA	2	1	0	4	7
MARIN	3	4	4	3	14
MARIPOSA	0	0	0	0	0
MENDOCINO	0	4	7	0	11
MERCED	0	4	9	13	26
MODOC	0	0	0	0	0
MONO	0	3	1	2	6
MONTEREY	20	7	14	8	49
NAPA	10	8	10	7	35
NEVADA	3	2	6	4	15
ORANGE	66	54	59	68	247
PLACER	31	30	37	28	126
PLUMAS	0	3	2	8	13
RIVERSIDE	107	70	85	84	346
SACRAMENTO	56	58	62	63	239
SAN BENITO	1	1	0	1	3
SAN BERNARDINO	81	42	80	70	273
SAN DIEGO	113	71	112	83	379
SAN FRANCISCO	26	32	31	30	119
SAN JOAQUIN	24	14	40	36	114
SAN LUIS OBISPO	16	32	21	34	103
SAN MATEO	25	17	7	14	63
SANTA BARBARA	27	12	28	22	89
SANTA CLARA	71	55	57	51	234
SANTA CRUZ	1	2	9	5	17
SHASTA	4	2	3	4	13
SIERRA	0	0	0	0	0
SISKIYOU	5	1	7	2	15
SOLANO	7	10	11	10	38
SONOMA	18	19	16	11	64
STANISLAUS	33	12	27	8	80
SUTTER	5	5	3	2	15
TEHAMA	3	2	1	1	7
TRINITY	0	0	0	0	0
TULARE	16	9	20	15	60
TUOLUMNE	1	2	1	3	7
VENTURA	24	27	38	28	117
YOLO	8	13	6	7	34
YUBA	0	0	0	1	1
CALIFORNIA	1,273	1,020	1,267	1,066	4,626
<b>UTILITY</b>					
SCE	368	289	369	331	1,357
PG&E	462	414	489	401	1,766
SDG&E	118	80	121	86	405
SoCalGas	98	79	75	76	328
Non-IOU	227	158	213	172	770

**Table 3.4 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2002 by Quarter, Building Type and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Q1, 2002	100	32	12	21	14	58	265	267	100	127	193	84	1,273
Q2, 2002	112	30	13	21	25	44	174	202	99	116	130	54	1,020
Q3, 2002	113	44	20	21	31	65	243	236	147	134	156	57	1,267
Q4, 2002	112	43	12	18	18	44	223	215	111	81	119	70	1,066
2002 Total	437	149	57	81	88	211	905	920	457	458	598	265	4,626
<b>SCE</b>													
Q1, 2002	23	10	2	11	5	15	67	91	23	36	64	21	368
Q2, 2002	27	7	3	9	11	15	31	71	28	29	45	13	289
Q3, 2002	24	15	3	5	7	24	63	88	36	29	64	11	369
Q4, 2002	25	12	1	12	7	12	61	75	36	24	41	25	331
2002 Total	99	44	9	37	30	66	222	325	123	118	214	70	1,357
<b>PG&amp;E</b>													
Q1, 2002	42	10	3	7	4	23	113	81	25	39	73	42	462
Q2, 2002	52	16	5	6	8	18	92	75	34	34	43	31	414
Q3, 2002	53	15	7	11	10	28	107	79	61	32	58	28	489
Q4, 2002	50	13	6	5	5	18	96	69	36	30	41	32	401
2002 Total	197	54	21	29	27	87	408	304	156	135	215	133	1,766
<b>SDG&amp;E</b>													
Q1, 2002	17	5	1	1	2	7	26	20	15	12	9	3	118
Q2, 2002	10	.	.	1	5	3	12	14	14	7	11	3	80
Q3, 2002	13	3	3	2	.	1	28	22	24	18	2	5	121
Q4, 2002	9	4	2	.	1	4	19	25	8	6	7	1	86
2002 Total	49	12	6	4	8	15	85	81	61	43	29	12	405
<b>SoCalGas</b>													
Q1, 2002	10	2	3	1	.	5	10	26	16	17	4	4	200
Q2, 2002	6	2	2	3	.	2	14	17	5	17	8	3	140
Q3, 2002	3	4	3	.	4	4	8	14	7	14	8	6	171
Q4, 2002	6	4	2	1	3	5	8	14	13	10	8	2	140
2002 Total	25	12	10	5	7	16	40	71	41	58	28	15	328
<b>Non-IOU</b>													
Q1, 2002	8	5	3	1	3	8	49	49	21	23	43	14	125
Q2, 2002	17	5	3	2	1	6	25	25	18	29	23	4	97
Q3, 2002	20	7	4	3	10	8	37	33	19	41	24	7	117
Q4, 2002	22	10	1	0	2	5	39	32	18	11	22	10	108
2002 Total	67	27	11	6	16	27	150	139	76	104	112	35	770

**Table 3.5 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2002  
by Building Type, County and Service Territory (1,000 sqft)**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	172	46	121	50	115	193	1,360	438	456	333	405	42	3,732
ALPINE	18	.	.	.	57	.	.	.	.	.	.	.	75
AMADOR	.	.	.	.	.	.	.	.	.	.	.	.	0
BUTTE	69	53	.	.	.	53	323	19	9	.	213	15	753
CALAVERAS	.	.	.	.	.	3	12	.	.	.	24	66	105
COLUSA	38	.	.	.	.	18	.	.	.	.	.	.	56
CONTRA COSTA	276	74	1	12	45	107	728	810	160	640	811	114	3,778
DEL NORTE	14	.	.	.	.	.	.	.	.	.	.	.	14
EL DORADO	9	43	.	.	.	36	99	281	184	150	18	12	833
FRESNO	484	54	12	.	.	1,486	308	438	184	251	584	536	4,337
GLENN	.	.	.	.	45	.	.	.	.	.	.	.	45
HUMBOLDT	.	.	.	.	.	20	.	17	.	.	3	.	40
IMPERIAL	45	24	5	.	32	14	131	192	257	8	14	21	744
INYO	.	.	.	.	.	.	32	.	21	.	.	.	53
KERN	114	13	42	1,399	54	120	69	340	319	23	776	376	3,644
KINGS	11	1	4	.	.	2	11	149	123	.	58	.	359
LAKE	1	.	.	.	.	.	.	2	8	.	17	6	34
LASSEN	.	.	.	9	.	.	7	.	.	.	.	.	16
LOS ANGELES	839	443	460	614	642	2,220	2,636	4,980	2,889	10,243	5,626	1,213	32,807
MADERA	317	4	.	.	.	6	2	.	.	.	60	.	389
MARIN	58	.	36	0	.	29	3	.	26	.	1	.	154
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	.	0
MENDOCINO	3	.	.	.	.	23	10	18	126	15	.	.	196
MERCED	16	76	.	70	.	.	145	3	100	11	79	24	523
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	4	.	.	.	.	.	.	28	64	.	40	.	136
MONTEREY	85	.	8	.	90	6	25	85	74	10	56	37	475
NAPA	17	22	.	.	158	109	34	46	.	.	49	77	512
NEVADA	27	.	.	4	.	.	19	.	21	7	87	2	166
ORANGE	473	284	13	438	353	754	2,128	1,858	877	1,230	1,461	109	9,977
PLACER	233	154	.	18	77	230	742	1,278	343	188	439	109	3,809
PLUMAS	1	.	.	.	.	1	3	3	.	2	70	7	87
RIVERSIDE	250	94	14	107	339	293	846	2,035	2,126	412	5,708	223	12,447
SACRAMENTO	291	180	.	.	277	229	1,915	1,212	1,016	2,416	1,165	78	8,778
SAN BENITO	.	.	.	.	.	.	.	12	79	.	21	.	113
SAN BERNARDINO	124	257	105	104	186	228	768	1,212	751	174	9,751	309	13,968
SAN DIEGO	643	80	78	201	893	578	3,526	1,407	1,651	2,666	2,568	102	14,393
SAN FRANCISCO	339	.	325	10	2	122	369	72	52	717	50	134	2,191
SAN JOAQUIN	51	23	4	69	80	38	57	669	408	139	1,623	469	3,629
SAN LUIS OBISPO	15	9	.	8	79	69	442	216	15	69	172	197	1,292
SAN MATEO	230	30	.	23	68	31	84	325	64	166	116	18	1,156
SANTA BARBARA	376	2	.	55	86	42	226	46	147	33	444	211	1,668
SANTA CLARA	319	83	363	94	146	93	741	566	736	1,844	72	303	5,361
SANTA CRUZ	8	.	.	.	184	.	7	6	366	80	.	.	651
SHASTA	42	26	.	.	.	.	101	27	1	28	9	.	234
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	5	.	2	.	49	.	10	2	.	8	11	7	93
SOLANO	65	28	33	49	56	80	238	184	100	46	28	.	907
SONOMA	31	.	.	13	89	103	200	310	281	83	105	64	1,279
STANISLAUS	44	.	.	15	.	89	98	139	65	27	316	371	1,165
SUTTER	.	8	.	9	.	16	8	1	186	9	85	.	322
TEHAMA	2	.	3	.	.	.	2	.	4	46	2	.	59
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	129	14	14	15	.	34	56	332	191	.	133	30	946
TUOLUMNE	.	10	.	.	.	.	11	2	.	.	.	4	27
VENTURA	117	55	27	.	96	264	265	1,290	261	88	759	117	3,340
YOLO	185	34	.	40	45	.	51	201	401	.	500	259	1,717
YUBA	36	.	.	.	.	.	.	.	.	.	.	.	36
CALIFORNIA	6,626	2,223	1,668	3,426	4,342	7,738	18,851	21,249	15,143	22,159	34,530	5,660	143,616
UTILITY													
SCE	1,351	695	254	1,979	1,300	2,491	4,176	9,120	4,936	4,638	20,271	1,214	52,426
PG&E	3,808	792	692	519	1,214	3,032	5,926	6,792	4,382	4,369	7,028	3,320	41,874
SDG&E	674	146	78	201	893	578	3,719	1,726	1,798	2,639	2,508	102	15,061
SoCalGas	303	154	258	405	203	1,016	1,751	888	1,823	3,786	1,572	777	12,935
Non-IOU	490	437	385	322	732	621	3,278	2,724	2,205	6,726	3,151	248	21,321



**Table 3.6 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2002 by Quarter, County and Service Territory (1,000 sqft)**

	Q1, 2002	Q2, 2002	Q3, 2002	Q4, 2002	2002 Total
<b>COUNTY</b>					
ALAMEDA	1,012	1,077	851	792	3,732
ALPINE	0	57	18	0	75
AMADOR	0	0	0	0	0
BUTTE	198	169	242	144	753
CALAVERAS	0	74	31	0	105
COLUSA	0	56	0	0	56
CONTRA COSTA	1,065	754	961	998	3,778
DEL NORTE	0	0	0	14	14
EL DORADO	275	202	304	53	833
FRESNO	770	1,294	616	1,657	4,337
GLENN	0	45	0	0	45
HUMBOLDT	0	17	20	3	40
IMPERIAL	175	58	165	345	744
INYO	8	32	13	0	53
KERN	945	271	780	1,649	3,644
KINGS	63	107	172	17	359
LAKE	17	14	3	0	34
LASSEN	0	9	7	0	16
LOS ANGELES	8,411	7,617	11,369	5,410	32,807
MADERA	8	60	0	321	389
MARIN	5	82	49	17	154
MARIPOSA	0	0	0	0	0
MENDOCINO	0	51	145	0	196
MERCED	0	42	192	289	523
MODOC	0	0	0	0	0
MONO	0	104	4	28	136
MONTEREY	121	41	224	90	475
NAPA	74	69	243	127	512
NEVADA	31	22	98	15	166
ORANGE	2,076	2,404	2,512	2,986	9,977
PLACER	772	955	947	1,134	3,809
PLUMAS	0	5	9	73	87
RIVERSIDE	2,404	4,347	3,626	2,070	12,447
SACRAMENTO	1,023	2,025	3,438	2,293	8,778
SAN BENITO	21	12	0	79	113
SAN BERNARDINO	5,876	1,781	3,280	3,032	13,968
SAN DIEGO	4,399	3,857	3,850	2,287	14,393
SAN FRANCISCO	534	564	439	654	2,191
SAN JOAQUIN	504	594	1,182	1,348	3,629
SAN LUIS OBISPO	107	448	287	449	1,292
SAN MATEO	441	252	318	146	1,156
SANTA BARBARA	379	267	642	381	1,668
SANTA CLARA	1,165	1,467	1,428	1,301	5,361
SANTA CRUZ	34	153	433	31	651
SHASTA	39	40	36	119	234
SIERRA	0	0	0	0	0
SISKIYOU	17	2	72	3	93
SOLANO	285	229	227	167	907
SONOMA	398	385	261	235	1,279
STANISLAUS	359	132	634	40	1,165
SUTTER	24	29	31	239	322
TEHAMA	44	10	2	2	59
TRINITY	0	0	0	0	0
TULARE	205	127	258	356	946
TUOLUMNE	2	12	4	9	27
VENTURA	734	1,040	716	850	3,340
YOLO	590	549	316	263	1,717
YUBA	0	0	0	36	36
<b>CALIFORNIA</b>	<b>35,608</b>	<b>34,007</b>	<b>41,450</b>	<b>32,551</b>	<b>143,616</b>
<b>UTILITY</b>					
SCE	14,552	12,643	14,030	11,201	52,426
PG&E	9,311	9,594	11,674	11,295	41,874
SDG&E	4,352	4,174	4,115	2,420	15,061
SoCalGas	2,823	3,189	3,667	3,256	12,935
Non-IOU	4,571	4,406	7,964	4,380	21,321

**Table 3.7 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2002 by Quarter, Building Type and Service Territory (1,000 sqft)**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Q1, 2002	1,417	353	418	483	780	1,266	4,225	6,310	2,836	4,711	11,523	1,285	35,608
Q2, 2002	1,599	359	338	741	1,757	1,232	5,127	4,913	3,569	5,034	8,008	1,329	34,007
Q3, 2002	2,070	831	673	630	1,111	2,339	4,267	5,250	4,382	9,794	8,516	1,586	41,450
Q4, 2002	1,539	680	239	1,571	694	2,902	5,233	4,776	4,357	2,620	6,482	1,460	32,551
2002 Total	6,626	2,223	1,668	3,426	4,342	7,738	18,851	21,249	15,143	22,159	34,530	5,660	143,616
<b>SCE</b>													
Q1, 2002	128	176	84	105	247	175	904	2,414	874	1,543	7,522	379	14,552
Q2, 2002	378	66	67	333	595	610	1,061	2,518	1,102	1,167	4,562	185	12,643
Q3, 2002	494	349	80	148	246	1,099	1,165	2,679	1,690	1,538	4,463	79	14,030
Q4, 2002	351	104	23	1,393	212	608	1,046	1,509	1,269	390	3,724	571	11,201
2002 Total	1,351	695	254	1,979	1,300	2,491	4,176	9,120	4,936	4,638	20,271	1,214	52,426
<b>PG&amp;E</b>													
Q1, 2002	872	124	86	66	154	477	1,179	1,864	550	1,344	2,029	567	9,311
Q2, 2002	978	181	88	33	371	366	1,847	1,458	1,070	925	1,201	1,077	9,594
Q3, 2002	1,030	237	402	307	479	536	1,187	1,654	1,510	1,287	2,127	918	11,674
Q4, 2002	928	250	117	114	211	1,653	1,713	1,815	1,252	813	1,672	758	11,295
2002 Total	3,808	792	692	519	1,214	3,032	5,926	6,792	4,382	4,369	7,028	3,320	41,874
<b>SDG&amp;E</b>													
Q1, 2002	206	18	31	185	147	472	827	496	212	761	991	6	4,352
Q2, 2002	95	.	.	9	737	73	611	295	734	429	1,181	11	4,174
Q3, 2002	299	40	16	7	.	1	1,340	380	580	1,288	87	78	4,115
Q4, 2002	75	88	32	.	10	32	941	554	272	161	249	6	2,420
2002 Total	674	146	78	201	893	578	3,719	1,726	1,798	2,639	2,508	102	15,061
<b>SoCalGas</b>													
Q1, 2002	157	7	77	1	.	22	505	379	574	631	192	279	5,141
Q2, 2002	38	80	51	340	.	3	1,180	204	120	866	269	38	4,686
Q3, 2002	31	57	66	.	104	474	34	115	234	1,295	865	393	7,148
Q4, 2002	77	10	64	64	99	518	33	191	895	995	245	66	4,766
2002 Total	303	154	258	405	203	1,016	1,751	888	1,823	3,786	1,572	777	12,935
<b>Non-IOU</b>													
Q1, 2002	55	28	140	126	234	120	810	1,157	626	433	790	53	2,253
Q2, 2002	110	32	133	28	55	180	427	438	543	1,648	796	18	2,909
Q3, 2002	216	149	110	168	281	230	541	422	368	4,386	974	118	4,483
Q4, 2002	110	227	2	0	162	92	1,500	707	669	261	592	59	2,869
2002 Total	490	437	385	322	732	621	3,278	2,724	2,205	6,726	3,151	248	21,321

### **3.2 SBD NEW CONSTRUCTION PROGRAM PARTICIPATION IN PY2002**

Savings By Design (SBD) program activity for nonresidential new construction participants for whom the IOUs have committed funds in PY2002 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, and that an agreement was signed between the utility and the customer, detailing the conditions of participation in the program. 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 PY2002.

Table 3.9 summarizes the number of square feet of new construction committed in PY2002.

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 PY2002.

Table 3.13 presents the frequency with which classes of measures were installed by new construction SBD participants in PY2002. 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 PY2002.

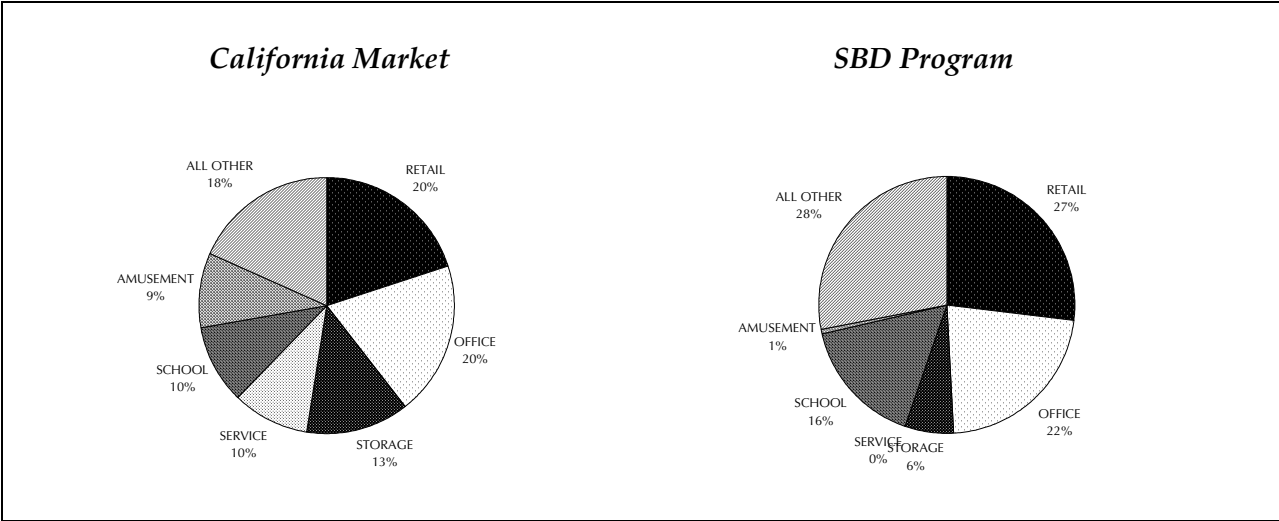
*Table 3.8 Number of Nonresidential New Construction SBD Participants in PY2002*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	4	2	1	2	2	48	75	31	.	5	12	182
Systems Approach	3	11	1	.	11	4	49	42	38	.	22	72	253
Total	3	15	3	1	13	6	97	117	69	.	27	84	435
<b>SCE</b>													
Whole Building Approach	.	.	1	.	.	.	11	57	4	.	.	4	77
Systems Approach	3	4	1	.	5	2	23	25	6	.	6	59	134
Total	3	4	2	.	5	2	34	82	10	.	6	63	211
<b>PG&amp;E</b>													
Whole Building Approach	.	1	1	1	.	2	30	17	9	.	4	5	70
Systems Approach	.	3	.	.	.	1	16	12	5	.	3	10	50
Total	.	4	1	1	.	3	46	29	14	.	7	15	120
<b>SDG&amp;E</b>													
Whole Building Approach	.	3	.	.	2	.	7	1	17	.	1	3	34
Systems Approach	.	4	.	.	6	1	6	1	19	.	6	3	46
Total	.	7	.	.	8	1	13	2	36	.	7	6	80
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	1	.	.	.	1
Systems Approach	.	.	.	.	.	.	4	4	8	.	7	.	23
Total	.	.	.	.	.	.	4	4	9	.	7	.	24

The majority of SBD program participants in PY2002 belong to the retail, office 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 decreased in PY2002 as compared to PY2001 (see Chapter 6, Tables 6.6-6.10). The high participation rates at the beginning of PY2001 may be due to changes in building codes and Program standards that went into effect on July 1, 2001, 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 California economy in 2002.

**Exhibit 3.4**  
**New Construction Building Segments with the Highest Number of Projects in PY2002**



*Table 3.9 Area of Nonresidential New Construction SBD Participants in PY2002 (1,000 sqft)*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	65	79	13	150	224	6,420	6,698	1,583	.	586	1,012	16,830
Systems Approach	48	213	31	.	2,343	401	5,581	3,953	1,582	.	3,562	4,087	21,801
Total	48	279	110	13	2,493	625	12,001	10,651	3,165	.	4,148	5,099	38,631
<b>SCE</b>													
Whole Building Approach	.	.	55	.	.	.	945	5,221	278	.	.	349	6,848
Systems Approach	48	75	31	.	1,305	232	3,369	1,850	292	.	1,576	3,396	12,173
Total	48	75	86	.	1,305	232	4,313	7,071	571	.	1,576	3,745	19,021
<b>PG&amp;E</b>													
Whole Building Approach	.	16	24	13	.	224	5,090	1,465	593	.	564	448	8,437
Systems Approach	.	41	.	.	.	47	1,226	1,583	328	.	889	561	4,674
Total	.	57	24	13	.	271	6,317	3,047	921	.	1,452	1,009	13,112
<b>SDG&amp;E</b>													
Whole Building Approach	.	49	.	.	150	.	385	12	707	.	22	215	1,540
Systems Approach	.	97	.	.	1,038	123	707	127	652	.	840	130	3,713
Total	.	147	.	.	1,188	123	1,092	139	1,359	.	862	344	5,253
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	5	.	.	.	5
Systems Approach	.	.	.	.	.	.	279	394	310	.	257	.	1,240
Total	.	.	.	.	.	.	279	394	315	.	257	.	1,245

The majority of SBD program activity in terms of area committed in PY2002 belongs to the office, retail and storage segments. The same building types yield high estimated MWh and kW savings. Similar to the number of participants into the SBD program, the committed square footage has decreased in PY2002 as compared to PY2001 (see Chapter 6, Tables 6.6-6.10).

**Table 3.10 Estimated Annual MWh Savings  
for New Construction SBD Participants in PY2002**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	172	176	15	167	62	21,840	42,113	8,932	.	3,185	3,579	80,242
Systems Approach	186	991	130	.	6,744	630	15,081	11,285	2,441	.	11,852	35,588	84,928
Total	186	1,163	306	15	6,911	693	36,921	53,398	11,373	.	15,037	39,167	165,170
<b>SCE</b>													
Whole Building Approach	.	.	137	.	.	.	6,873	32,236	4,385	.	.	1,099	44,731
Systems Approach	186	229	130	.	3,673	232	8,183	4,437	356	.	3,486	26,943	47,854
Total	186	229	267	.	3,673	232	15,055	36,673	4,741	.	3,486	28,042	92,585
<b>PG&amp;E</b>													
Whole Building Approach	.	46	39	15	.	62	13,852	9,715	1,483	.	3,170	534	28,917
Systems Approach	.	109	.	.	.	38	3,549	5,429	197	.	5,457	5,022	19,801
Total	.	155	39	15	.	100	17,400	15,145	1,680	.	8,627	5,557	48,717
<b>SDG&amp;E</b>													
Whole Building Approach	.	125	.	.	167	.	1,116	162	3,057	.	15	1,945	6,588
Systems Approach	.	653	.	.	3,071	361	1,878	301	1,460	.	1,804	3,623	13,152
Total	.	779	.	.	3,238	361	2,994	463	4,517	.	1,819	5,568	19,740
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	7	.	.	.	7
Systems Approach	.	.	.	.	.	.	1,471	1,118	427	.	1,105	.	4,122
Total	.	.	.	.	.	.	1,471	1,118	434	.	1,105	.	4,128

**Table 3.11 Estimated Annual kW Savings  
for New Construction SBD Participants in PY2002**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	115	29	4	36	22	7,433	9,801	3,850	.	251	1,370	22,911
Systems Approach	17	214	33	.	378	99	2,457	2,932	586	.	2,079	4,564	13,358
Total	17	329	62	4	414	122	9,890	12,733	4,435	.	2,330	5,934	36,269
<b>SCE</b>													
Whole Building Approach	.	.	33	.	.	.	1,465	7,692	1,859	.	.	1,014	12,062
Systems Approach	17	71	33	.	212	7	1,171	1,147	80	.	938	3,343	7,018
Total	17	71	66	.	212	7	2,636	8,839	1,939	.	938	4,356	19,080
<b>PG&amp;E</b>													
Whole Building Approach	.	35	-3	4	.	22	5,781	2,038	1,013	.	244	186	9,320
Systems Approach	.	27	.	.	.	13	711	1,441	56	.	747	668	3,664
Total	.	62	-3	4	.	35	6,492	3,479	1,069	.	991	854	12,984
<b>SDG&amp;E</b>													
Whole Building Approach	.	80	.	.	36	.	187	71	973	.	7	171	1,524
Systems Approach	.	116	.	.	167	79	378	62	303	.	317	553	1,974
Total	.	196	.	.	203	79	564	133	1,276	.	324	724	3,498
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	5	.	.	.	5
Systems Approach	.	.	.	.	.	.	197	282	146	.	78	.	702
Total	.	.	.	.	.	.	197	282	151	.	78	.	707



**Table 3.12 Estimated Annual Therm Savings  
for New Construction SBD Participants in PY2002**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	1,510	3,279	2,016	19,595	3,142	93,190	-78,630	65,183	.	.	144,367	253,652
Systems Approach	.	19,502	.	.	.	670	2,722	-17,683	-3,848	.	-15	458,350	459,698
Total	.	21,012	3,279	2,016	19,595	3,812	95,912	-96,313	61,335	.	-15	602,717	713,350
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0
<b>PG&amp;E</b>													
Whole Building Approach	.	.	3,279	2,016	.	3,142	69,507	-76,381	53,448	.	.	5,772	60,783
Systems Approach	.	-2,078	.	.	.	-394	-14,676	-16,962	-3,237	.	107	174,305	137,065
Total	.	-2,078	3,279	2,016	.	2,748	54,831	-93,343	50,211	.	107	180,077	197,848
<b>SDG&amp;E</b>													
Whole Building Approach	.	1,510	.	.	19,595	.	23,683	-2,249	11,394	.	.	138,595	192,528
Systems Approach	.	21,580	.	.	.	1,064	12,458	-67	-1,835	.	23	284,045	317,268
Total	.	23,090	.	.	19,595	1,064	36,141	-2,316	9,559	.	23	422,640	509,796
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	341	.	.	.	341
Systems Approach	.	.	.	.	.	.	4,940	-654	1,224	.	-145	.	5,365
Total	.	.	.	.	.	.	4,940	-654	1,565	.	-145	.	5,706

*Table 3.13 Classes of Measures Installed by New Construction SBD Participants in PY2002*

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	195	.	.	.	.	.	.	.	.	.	.	.	.	195
Systems Approach	.	41	.	5	102	1	91	12	188	16	.	16	75	547
Total	195	41	.	5	102	1	91	12	188	16	.	16	75	742
<b>SCE</b>														
Whole Building Approach	77	.	.	.	.	.	.	.	.	.	.	.	.	77
Systems Approach	.	26	.	4	30	.	52	12	68	1	.	10	43	246
Total	77	26	.	4	30	.	52	12	68	1	.	10	43	323
<b>PG&amp;E</b>														
Whole Building Approach	70	.	.	.	.	.	.	.	.	.	.	.	.	70
Systems Approach	.	7	.	.	26	1	.	.	28	2	.	6	8	78
Total	70	7	.	.	26	1	.	.	28	2	.	6	8	148
<b>SDG&amp;E</b>														
Whole Building Approach	47	.	.	.	.	.	.	.	.	.	.	.	.	47
Systems Approach	.	8	.	1	34	.	29	.	62	9	.	.	16	159
Total	47	8	.	1	34	.	29	.	62	9	.	.	16	206
<b>SoCalGas</b>														
Whole Building Approach	1	.	.	.	.	.	.	.	.	.	.	.	.	1
Systems Approach	.	.	.	.	12	.	10	.	30	4	.	.	8	64
Total	1	.	.	.	12	.	10	.	30	4	.	.	8	65

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, lighting, unitary HVAC systems, lighting, and “other measures” (VSDs, air compressors, CO monitors, gas measures) were installed most often by SBD new construction participants, while HVAC controls were installed very rarely, and refrigeration measures were not installed at all in PY2002. 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.

**Table 3.14 Estimated Annual MWh Savings by Measure Class  
for New Construction SBD Participants in PY2002**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	80,242	.	.	.	.	.	.	.	.	.	.	.	.	80,242
Systems Approach	.	7,340	.	202	1,532	766	10,661	424	19,843	227	.	14,232	29,701	84,928
Total	80,242	7,340	.	202	1,532	766	10,661	424	19,843	227	.	14,232	29,701	165,170
<b>SCE</b>														
Whole Building Approach	44,731	.	.	.	.	.	.	.	.	.	.	.	.	44,731
Systems Approach	.	5,884	.	152	148	.	7,827	424	7,389	.	.	9,590	16,440	47,854
Total	44,731	5,884	.	152	148	.	7,827	424	7,389	.	.	9,590	16,440	92,585
<b>PG&amp;E</b>														
Whole Building Approach	28,917	.	.	.	.	.	.	.	.	.	.	.	.	28,917
Systems Approach	.	580	.	.	1,087	766	.	.	9,254	1	.	4,641	3,472	19,801
Total	28,917	580	.	.	1,087	766	.	.	9,254	1	.	4,641	3,472	48,717
<b>SDG&amp;E</b>														
Whole Building Approach	6,588	.	.	.	.	.	.	.	.	.	.	.	.	6,588
Systems Approach	.	876	.	50	120	.	1,905	.	1,756	161	.	.	8,283	13,152
Total	6,588	876	.	50	120	.	1,905	.	1,756	161	.	.	8,283	19,740
<b>SoCalGas</b>														
Whole Building Approach	7	.	.	.	.	.	.	.	.	.	.	.	.	7
Systems Approach	.	.	.	.	177	.	928	.	1,445	65	.	.	1,506	4,122
Total	7	.	.	.	177	.	928	.	1,445	65	.	.	1,506	4,128

The whole building design, lighting and “other measures” such as variable speed drives, air compressors, and CO monitors account for most of the committed MWh and kW savings in new construction. The largest therm savings are generated by the whole building design, “other measures”, including gas measures, and process measures.

**Table 3.15 Estimated Annual kW Savings by Measure Class  
for New Construction SBD Participants in PY2002**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	22,911	.	.	.	.	.	.	.	.	.	.	.	.	22,911
Systems Approach	.	2,152	.	88	679	54	1,220	135	4,135	72	.	1,739	3,085	13,358
Total	22,911	2,152	.	88	679	54	1,220	135	4,135	72	.	1,739	3,085	36,269
<b>SCE</b>														
Whole Building Approach	12,062	.	.	.	.	.	.	.	.	.	.	.	.	12,062
Systems Approach	.	1,651	.	63	88	.	774	135	1,542	.	.	1,145	1,620	7,018
Total	12,062	1,651	.	63	88	.	774	135	1,542	.	.	1,145	1,620	19,080
<b>PG&amp;E</b>														
Whole Building Approach	9,320	.	.	.	.	.	.	.	.	.	.	.	.	9,320
Systems Approach	.	243	.	.	431	54	.	.	1,792	0	.	594	549	3,664
Total	9,320	243	.	.	431	54	.	.	1,792	0	.	594	549	12,984
<b>SDG&amp;E</b>														
Whole Building Approach	1,524	.	.	.	.	.	.	.	.	.	.	.	.	1,524
Systems Approach	.	258	.	25	66	.	294	.	448	51	.	.	834	1,974
Total	1,524	258	.	25	66	.	294	.	448	51	.	.	834	3,498
<b>SoCalGas</b>														
Whole Building Approach	5	.	.	.	.	.	.	.	.	.	.	.	.	5
Systems Approach	.	.	.	.	94	.	152	.	353	22	.	.	82	702
Total	5	.	.	.	94	.	152	.	353	22	.	.	82	707

**Table 3.16 Estimated Annual Therm Savings by Measure Class  
for New Construction SBD Participants in PY2002**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	253,652	.	.	.	.	.	.	.	.	.	.	.	.	253,652
Systems Approach	.	-5,473	.	.	-8,315	-98	23,137	.	-16,287	2,306	.	175,651	288,777	459,698
Total	253,652	-5,473	.	.	-8,315	-98	23,137	.	-16,287	2,306	.	175,651	288,777	713,350
<b>SCE</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	0
<b>PG&amp;E</b>														
Whole Building Approach	60,783	.	.	.	.	.	.	.	.	.	.	.	.	60,783
Systems Approach	.	-5,092	.	.	-8,315	-98	.	.	-10,194	-324	.	175,651	-14,563	137,065
Total	60,783	-5,092	.	.	-8,315	-98	.	.	-10,194	-324	.	175,651	-14,563	197,848
<b>SDG&amp;E</b>														
Whole Building Approach	192,528	.	.	.	.	.	.	.	.	.	.	.	.	192,528
Systems Approach	.	-381	.	.	.	.	16,640	.	-3,809	1,478	.	.	303,340	317,268
Total	192,528	-381	.	.	.	.	16,640	.	-3,809	1,478	.	.	303,340	509,796
<b>SoCalGas</b>														
Whole Building Approach	341	.	.	.	.	.	.	.	.	.	.	.	.	341
Systems Approach	.	.	.	.	.	.	6,497	.	-2,284	1,152	.	.	.	5,365
Total	341	.	.	.	.	.	6,497	.	-2,284	1,152	.	.	.	5,706

#### 4. STATEWIDE NONRESIDENTIAL ALTERATION (R&R) TRENDS

This chapter summarizes the nonresidential alterations that have occurred in PY2002 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 tenant improvement, renovation and remodeling projects (R&R) in PY2002.

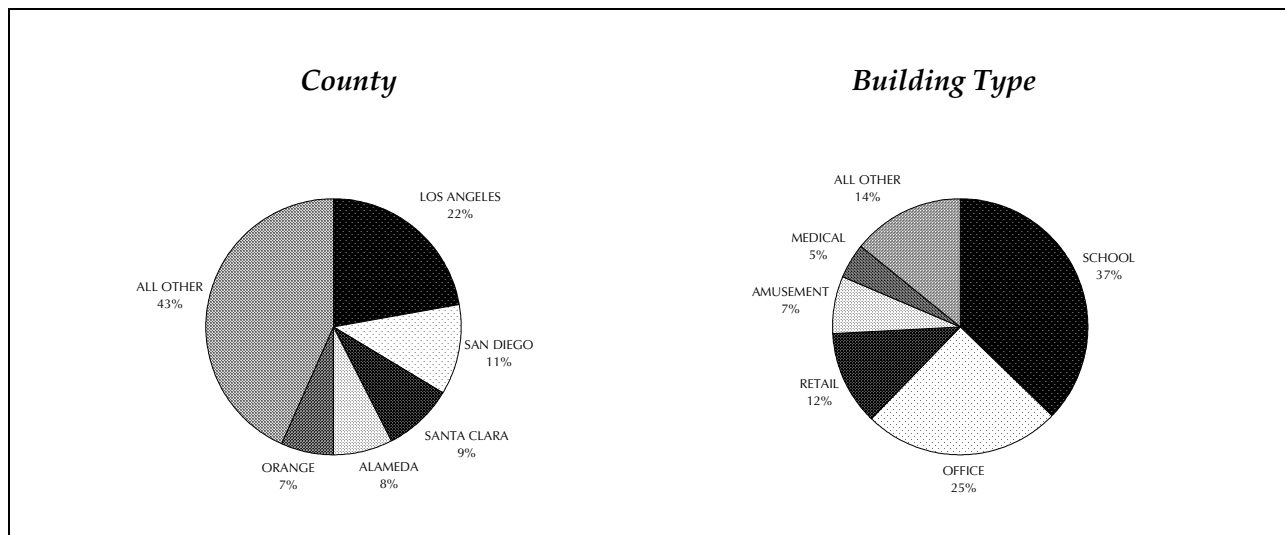
##### 4.1 ALTERATION (R&R) MARKET CHARACTERISTICS IN PY2002

PY2002 nonresidential alteration market activity by building segment and county is presented in the following 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 PY2002. The valuation reported by F.W. Dodge is roughly half of the permit valuation reported by CIRB (Appendix B, Table B.1). One explanation is that CIRB groups addition and alteration projects together, thus reporting a larger market segment than F.W. Dodge. Another is that CIRB records only building-related projects, while leaving out permits for heating, HVAC, electrical, and other remodeling/renovation projects.

As Exhibit 4.1 shows, the counties with the most active alteration activity in terms of valuation are Los Angeles, San Diego, Santa Clara, Alameda and Orange.

**Exhibit 4.1**  
**R&R Market Segments with the Highest Project Start Valuation in PY2002**



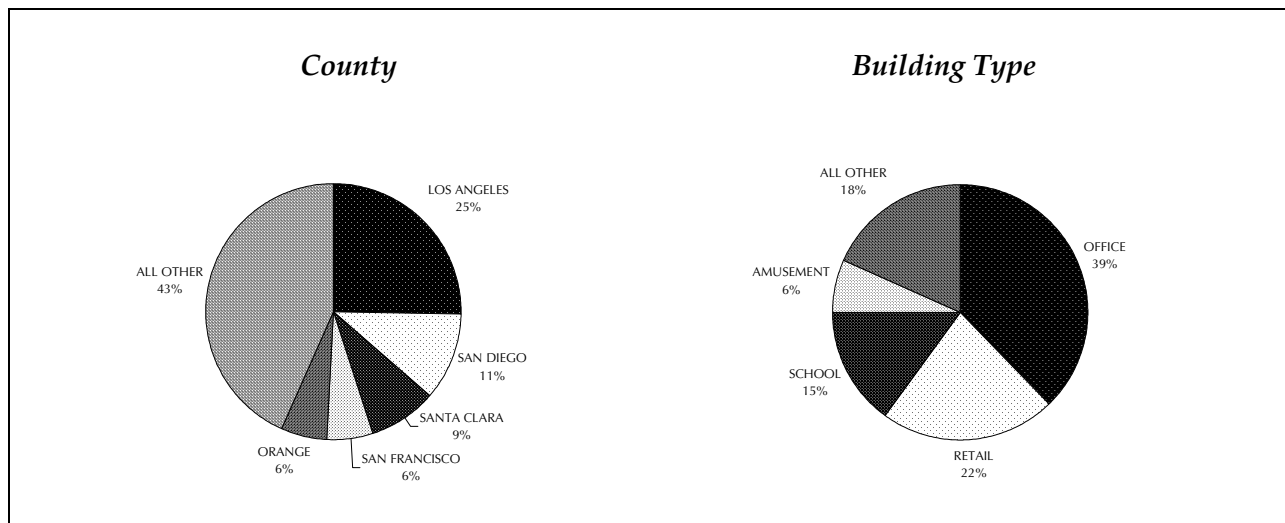
There are ten counties for which F.W. Dodge does not record any nonresidential alteration project starts: Alpine, Amador, Del Norte, Glenn, Lassen, Mariposa, Mono, Plumas, Sierra and Trinity.

Among building types, school, office, retail and amusement account for the highest value of alteration projects that have started construction in PY2002, while service and government buildings account for the lowest value in PY2002.

Among utility territories, PG&E accounts for almost half the statewide project start value in PY2002. In all four IOU territories, as well as non-IOU areas, the school and office segments account for large fractions of the total project start valuation.

Table 4.2 presents the number of nonresidential alteration projects that started construction during PY2002. As shown in Exhibit 4.2 below, the counties with the largest number of alteration project starts are Los Angeles, San Diego, Santa Clara, San Francisco and Orange. Among building types, the office segment is by far the largest in terms of alteration project starts, followed by retail and school. The fewest alteration project starts recorded by F.W. Dodge in PY2002 occur in the hotels and government segments. Among utility territories, PG&E leads with the highest number of project starts, followed by SCE and SDG&E. SoCalGas accounts for the smallest number of project starts. Non-IOU areas have a significant number of project starts, higher than the number in SDG&E territory.

**Exhibit 4.2**  
**R&R Market Segments with the Highest Number of Project Starts in PY2002**



Tables 4.3 and 4.4 summarize quarterly alteration project starts by county and building type. There is little variation from quarter to quarter in the number of project starts by segment, with the exception of Quarter 4, when the number of project starts drop by about 25% as compared to the other quarters.

**Table 4.1 F.W. Dodge Valuation for Nonresidential Alteration Project Starts in PY2002  
by Building Type, County and Service Territory (\$1,000)**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	24,475	480	4,073	902	.	13,349	95,119	28,932	62,367	.	2,203	13,586	245,486
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	.	.	.	.	.	.	.	.	.	.	0
BUTTE	2,845	.	259	.	.	.	749	.	12,251	216	.	.	16,320
CALAVERAS	811	.	.	.	.	.	194	.	.	.	.	.	1,005
COLUSA	.	.	.	.	.	.	.	.	364	.	.	.	364
CONTRA COSTA	765	.	1,257	915	.	1,841	10,863	6,527	13,768	978	.	156	37,070
DEL NORTE	.	.	.	.	.	.	.	.	.	.	.	.	0
EL DORADO	3,874	650	.	.	.	650	1,293	439	5,450	.	.	.	12,356
FRESNO	419	600	661	.	.	18,528	4,768	5,380	16,041	250	2,822	139	49,608
GLENN	.	.	.	.	.	.	.	.	.	.	.	.	0
HUMBOLDT	909	.	431	.	.	.	.	.	4,108	4,299	.	.	9,747
IMPERIAL	.	.	.	.	.	250	5,814	700	.	600	.	2,490	9,854
INYO	2,500	.	.	.	.	.	.	.	.	.	.	1,198	3,698
KERN	624	263	3,605	6,667	.	1,080	4,193	3,455	2,193	206	1,560	1,206	25,052
KINGS	.	.	.	.	.	.	300	.	1,264	.	.	235	1,799
LAKE	331	.	.	.	.	.	280	.	.	.	.	.	611
LASSEN	.	.	.	.	.	.	.	.	.	.	.	.	0
LOS ANGELES	79,477	7,261	4,852	476	7,773	31,240	173,686	83,343	279,229	21,294	7,051	25,925	721,607
MADERA	.	.	.	.	.	.	.	.	337	.	.	.	337
MARIN	1,043	.	918	.	.	1,750	3,560	3,593	23,585	.	1,785	255	36,489
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	.	0
MENDOCINO	145	.	.	.	.	.	171	.	1,700	.	804	.	2,820
MERCED	184	.	.	.	.	500	900	1,000	.	469	.	.	3,053
MODOC	.	.	.	.	.	.	.	.	264	.	.	.	264
MONO	.	.	.	.	.	.	.	.	.	.	.	.	0
MONTEREY	140	.	27	77	.	2,780	1,215	685	11,778	.	3,209	1,553	21,464
NAPA	14,956	.	.	537	.	1,337	2,173	769	4,052	.	.	200	24,024
NEVADA	.	.	.	.	.	1,300	642	5,700	320	.	.	.	7,962
ORANGE	21,016	7,675	720	1,020	.	6,265	68,643	25,000	75,052	3,377	2,934	1,831	213,533
PLACER	1,991	453	.	1,137	213	1,326	13,191	4,039	1,988	194	359	588	25,479
PLUMAS	.	.	.	.	.	.	.	.	.	.	.	.	0
RIVERSIDE	2,021	1,405	1,319	.	5,000	2,090	11,643	18,531	38,857	231	10,403	1,764	93,264
SACRAMENTO	5,809	22,804	9,228	840	3,638	3,415	56,484	13,301	35,182	940	2,495	6,694	160,830
SAN BENITO	.	.	3,795	.	.	.	.	250	.	.	.	.	4,045
SAN BERNARDINO	3,600	.	9,394	545	.	11,904	8,606	11,849	27,630	1,997	20,984	5,169	101,678
SAN DIEGO	4,965	835	85	647	7,693	8,310	90,291	31,373	188,738	1,389	6,826	23,773	364,925
SAN FRANCISCO	11,892	500	334	.	7,388	14,897	77,912	14,662	31,800	755	539	7,860	168,539
SAN JOAQUIN	2,445	.	6,000	312	.	100	4,533	6,204	19,501	.	2,903	147	42,145
SAN LUIS OBISPO	.	400	.	.	430	1,201	3,884	4,405	857	85	259	329	11,850
SAN MATEO	10,907	2,750	1,940	774	450	450	40,995	42,098	60,886	601	2,478	5,739	170,068
SANTA BARBARA	2,870	83	.	189	3,791	709	6,776	5,289	13,521	1,066	405	3,946	38,645
SANTA CLARA	7,110	1,700	.	668	10,500	7,586	68,236	35,121	128,193	1,652	5,123	20,718	286,607
SANTA CRUZ	243	250	.	677	.	.	1,981	.	22,444	.	219	3,686	29,500
SHASTA	11,007	.	.	177	.	208	869	535	6,620	.	940	.	20,356
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	2,738	.	.	.	.	1,054	.	.	445	336	.	.	4,573
SOLANO	.	1,598	2,070	1,602	.	.	2,657	2,638	47,403	566	.	.	58,534
SONOMA	1,419	.	86	.	1,831	500	6,212	4,540	20,266	557	.	1,986	37,397
STANISLAUS	1,071	1,040	1,601	615	.	11,077	2,560	6,455	6,390	73	884	3,794	35,560
SUTTER	.	.	.	.	.	366	543	1,000	888	.	.	2,503	5,300
TEHAMA	.	.	.	.	.	.	195	1,000	.	.	.	.	1,195
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	.	487	716	.	200	3,420	2,418	1,845	4,289	3,894	129	2,338	19,736
TUOLUMNE	260	.	.	.	.	.	167	.	6,867	.	117	.	7,411
VENTURA	3,334	2,527	.	2,230	650	746	36,360	12,409	14,283	900	350	6,787	80,576
YOLO	1,586	.	.	.	.	300	1,699	175	8,327	3,782	.	544	16,413
YUBA	.	.	.	.	.	165	250	884	.	.	.	.	1,299
CALIFORNIA	229,782	53,761	53,371	21,007	49,557	150,694	813,025	384,126	1,199,498	50,707	77,781	147,139	3,230,448
UTILITY													
SCE	53,391	12,772	14,298	9,496	13,309	22,727	165,328	82,580	257,362	12,919	36,851	35,776	716,809
PG&E	99,407	11,076	26,982	9,448	21,012	80,443	335,754	173,016	501,016	14,289	24,867	66,073	1,363,383
SDG&E	5,452	835	85	647	7,693	8,310	90,291	35,850	208,195	1,389	6,826	23,773	389,346
SoCalGas	45,257	800	438	290	3,905	20,687	93,842	39,932	115,306	2,738	1,831	10,132	335,158
Non-IOU	26,275	28,278	11,568	1,126	3,638	18,527	127,810	52,748	117,619	19,372	7,406	11,385	425,752



**Table 4.2 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2002  
by Building Type, County and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>COUNTY</b>													
ALAMEDA	16	3	4	2	.	18	67	42	37	.	4	14	207
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	.	.	.	.	.	.	.	.	.	.	0
BUTTE	3	.	2	.	.	.	6	.	3	1	.	.	15
CALAVERAS	2	.	.	.	.	.	1	.	.	.	.	.	3
COLUSA	.	.	.	.	.	.	.	.	1	.	.	.	1
CONTRA COSTA	4	.	4	3	.	3	33	21	11	5	.	1	85
DEL NORTE	.	.	.	.	.	.	.	.	.	.	.	.	0
EL DORADO	2	1	.	.	.	2	6	4	1	.	.	.	16
FRESNO	2	1	2	.	.	4	19	9	17	1	3	1	59
GLENN	.	.	.	.	.	.	.	.	.	.	.	.	0
HUMBOLDT	3	.	1	.	.	.	.	.	7	1	.	.	12
IMPERIAL	.	.	.	.	.	1	6	3	.	1	.	3	14
INYO	1	.	.	.	.	.	.	.	.	.	.	1	2
KERN	4	1	2	5	.	2	11	8	10	2	4	2	51
KINGS	.	.	.	.	.	.	1	.	2	.	.	1	4
LAKE	1	.	.	.	.	.	1	.	.	.	.	.	2
LASSEN	.	.	.	.	.	.	.	.	.	.	.	.	0
LOS ANGELES	72	14	11	2	9	60	411	283	146	24	31	29	1,092
MADERA	.	.	.	.	.	.	.	.	1	.	.	.	1
MARIN	5	.	3	.	.	3	8	10	16	.	3	1	49
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	.	0
MENDOCINO	1	.	.	.	.	.	1	.	2	.	1	.	5
MERCED	1	.	.	.	.	1	2	1	.	1	.	.	6
MODOC	.	.	.	.	.	.	.	.	1	.	.	.	1
MONO	.	.	.	.	.	.	.	.	.	.	.	.	0
MONTEREY	1	.	1	1	.	5	8	5	7	.	3	3	34
NAPA	3	.	.	1	.	2	8	3	2	.	.	1	20
NEVADA	.	.	.	.	.	2	4	2	1	.	.	.	9
ORANGE	21	2	1	3	.	11	119	50	31	3	4	6	251
PLACER	6	1	.	1	1	7	42	22	3	2	2	3	90
PLUMAS	.	.	.	.	.	.	.	.	.	.	.	.	0
RIVERSIDE	10	4	4	.	1	9	43	57	27	2	11	7	175
SACRAMENTO	11	7	3	2	3	17	90	53	19	5	6	10	226
SAN BENITO	.	.	1	.	.	.	.	1	.	.	.	.	2
SAN BERNARDINO	7	.	2	1	.	9	31	22	4	4	4	6	117
SAN DIEGO	16	4	1	2	5	27	230	80	83	7	14	17	486
SAN FRANCISCO	18	1	1	.	7	13	132	43	28	3	2	4	252
SAN JOAQUIN	8	.	1	1	.	1	13	13	6	.	3	1	47
SAN LUIS OBISPO	.	1	.	.	3	4	15	12	2	1	3	1	42
SAN MATEO	6	2	1	3	1	1	61	18	20	2	1	3	119
SANTA BARBARA	4	1	.	1	2	5	19	16	15	2	3	6	74
SANTA CLARA	25	2	.	2	1	18	132	107	58	6	10	18	379
SANTA CRUZ	1	1	.	1	.	.	6	.	7	.	1	5	22
SHASTA	2	.	.	1	.	1	3	3	2	.	1	.	13
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	3	.	.	.	.	1	.	.	1	1	.	.	6
SOLANO	.	1	1	1	.	.	5	8	11	2	.	.	29
SONOMA	6	.	1	.	2	1	16	12	15	1	.	4	58
STANISLAUS	2	4	1	1	.	5	10	8	7	1	2	4	45
SUTTER	.	.	.	.	.	3	1	1	3	.	.	1	9
TEHAMA	.	.	.	.	.	.	1	1	.	.	.	.	2
TRINITY	.	.	.	.	.	.	.	.	.	.	.	.	0
TULARE	.	1	1	.	1	7	6	4	6	2	2	4	34
TUOLUMNE	1	.	.	.	.	.	2	.	2	.	1	.	6
VENTURA	8	3	.	2	1	6	59	32	18	3	2	9	143
YOLO	4	.	.	.	.	1	7	1	9	1	.	2	25
YUBA	.	.	.	.	.	1	1	1	.	.	.	.	3
<b>CALIFORNIA</b>	<b>280</b>	<b>55</b>	<b>49</b>	<b>36</b>	<b>37</b>	<b>251</b>	<b>1,637</b>	<b>965</b>	<b>660</b>	<b>84</b>	<b>121</b>	<b>168</b>	<b>4,343</b>
<b>UTILITY</b>													
SCE	67	14	9	7	6	45	320	228	167	24	31	47	965
PG&E	119	19	25	22	16	95	583	344	285	28	42	68	1,646
SDG&E	19	4	1	2	5	27	230	89	85	7	14	17	500
SoCalGas	34	5	4	1	7	30	181	115	55	7	5	12	456
Non-IOU	41	13	10	4	3	54	323	189	68	18	29	24	776

**Table 4.3 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2002 by Quarter, County and Service Territory**

	Q1, 2002	Q2, 2002	Q3, 2002	Q4, 2002	2002 Total
<b>COUNTY</b>					
ALAMEDA	55	64	56	32	207
ALPINE	0	0	0	0	0
AMADOR	0	0	0	0	0
BUTTE	1	6	5	3	15
CALAVERAS	2	1	0	0	3
COLUSA	1	0	0	0	1
CONTRA COSTA	37	14	17	17	85
DEL NORTE	0	0	0	0	0
EL DORADO	1	6	2	7	16
FRESNO	10	16	23	10	59
GLENN	0	0	0	0	0
HUMBOLDT	4	3	4	1	12
IMPERIAL	4	5	3	2	14
INYO	1	0	0	1	2
KERN	11	17	14	9	51
KINGS	1	3	0	0	4
LAKE	0	1	1	0	2
LASSEN	0	0	0	0	0
LOS ANGELES	318	300	290	184	1,092
MADERA	0	0	1	0	1
MARIN	16	14	14	5	49
MARIPOSA	0	0	0	0	0
MENDOCINO	0	2	3	0	5
MERCED	1	0	4	1	6
MODOC	0	1	0	0	1
MONO	0	0	0	0	0
MONTEREY	8	10	10	6	34
NAPA	7	3	10	0	20
NEVADA	1	1	3	4	9
ORANGE	79	71	53	48	251
PLACER	23	21	36	10	90
PLUMAS	0	0	0	0	0
RIVERSIDE	36	45	55	39	175
SACRAMENTO	63	65	63	35	226
SAN BENITO	1	0	1	0	2
SAN BERNARDINO	34	28	22	33	117
SAN DIEGO	133	127	127	99	486
SAN FRANCISCO	69	81	56	46	252
SAN JOAQUIN	9	7	15	16	47
SAN LUIS OBISPO	10	11	13	8	42
SAN MATEO	35	33	31	20	119
SANTA BARBARA	19	28	16	11	74
SANTA CLARA	88	103	112	76	379
SANTA CRUZ	3	9	3	7	22
SHASTA	6	4	0	3	13
SIERRA	0	0	0	0	0
SISKIYOU	1	0	4	1	6
SOLANO	9	6	8	6	29
SONOMA	15	21	14	8	58
STANISLAUS	13	12	16	4	45
SUTTER	2	5	2	0	9
TEHAMA	0	2	0	0	2
TRINITY	0	0	0	0	0
TULARE	7	7	9	11	34
TUOLUMNE	1	3	1	1	6
VENTURA	37	34	49	23	143
YOLO	1	10	7	7	25
YUBA	1	0	2	0	3
CALIFORNIA	1,174	1,200	1,175	794	4,343
<b>UTILITY</b>					
SCE	248	258	266	193	965
PG&E	419	473	465	289	1,646
SDG&E	138	129	130	103	500
SoCalGas	146	113	117	80	456
Non-IOU	223	227	197	129	776

**Table 4.4 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2002 by Quarter, Building Type and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Q1, 2002	72	4	11	8	7	58	480	258	173	19	32	52	1,174
Q2, 2002	86	13	13	10	10	69	412	276	213	22	29	47	1,200
Q3, 2002	65	25	15	13	6	75	431	260	180	29	34	42	1,175
Q4, 2002	57	13	10	5	14	49	314	171	94	14	26	27	794
2002 Total	280	55	49	36	37	251	1,637	965	660	84	121	168	4,343
<b>SCE</b>													
Q1, 2002	17	2	1	1	1	9	98	54	41	5	5	14	248
Q2, 2002	27	2	2	2	2	10	85	62	45	7	6	8	258
Q3, 2002	7	7	5	4	1	11	81	62	54	7	12	15	266
Q4, 2002	16	3	1	.	2	15	56	50	27	5	8	10	193
2002 Total	67	14	9	7	6	45	320	228	167	24	31	47	965
<b>PG&amp;E</b>													
Q1, 2002	28	1	4	6	3	19	163	91	63	7	15	19	419
Q2, 2002	36	8	6	6	4	25	141	89	119	6	10	23	473
Q3, 2002	31	4	9	7	2	31	162	108	75	9	11	16	465
Q4, 2002	24	6	6	3	7	20	117	56	28	6	6	10	289
2002 Total	119	19	25	22	16	95	583	344	285	28	42	68	1,646
<b>SDG&amp;E</b>													
Q1, 2002	6	.	.	.	.	9	61	19	33	1	3	6	138
Q2, 2002	6	1	1	1	1	9	55	31	14	3	3	4	129
Q3, 2002	4	2	.	.	2	6	57	24	24	2	4	5	130
Q4, 2002	3	1	.	1	2	3	57	15	14	1	4	2	103
2002 Total	19	4	1	2	5	27	230	89	85	7	14	17	500
<b>SoCalGas</b>													
Q1, 2002	9	.	2	.	1	8	64	38	19	.	2	3	257
Q2, 2002	6	1	.	.	2	7	44	33	13	1	1	5	236
Q3, 2002	10	3	.	.	1	11	51	25	9	6	.	1	208
Q4, 2002	9	1	2	1	3	4	22	19	14	.	2	3	143
2002 Total	34	5	4	1	7	30	181	115	55	7	5	12	456
<b>Non-IOU</b>													
Q1, 2001	12	1	4	1	2	13	94	56	17	6	7	10	112
Q2, 2001	11	1	4	1	1	18	87	61	22	5	9	7	104
Q3, 2001	13	9	1	2	0	16	80	41	18	5	7	5	106
Q4, 2001	5	2	1	0	0	7	62	31	11	2	6	2	66
2001 Total	41	13	10	4	3	54	323	189	68	18	29	24	776

## **4.2 SBD R&R PROGRAM PARTICIPATION IN PY2002**

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 PY2002, 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, and that an agreement was signed between the utility and the customer, detailing the conditions of participation in the program. 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 PY2002.

Table 4.6 shows the number of square feet of R&R construction committed as of PY2002.

Tables 4.7-4.9 summarize the estimated annual MWh, kW and therm savings attributable to R&R measures committed in PY2002.

Table 4.10 presents the frequency with which classes of measures were installed in R&R SBD projects committed in PY2002. A glossary of measure classes is presented in Appendix D.

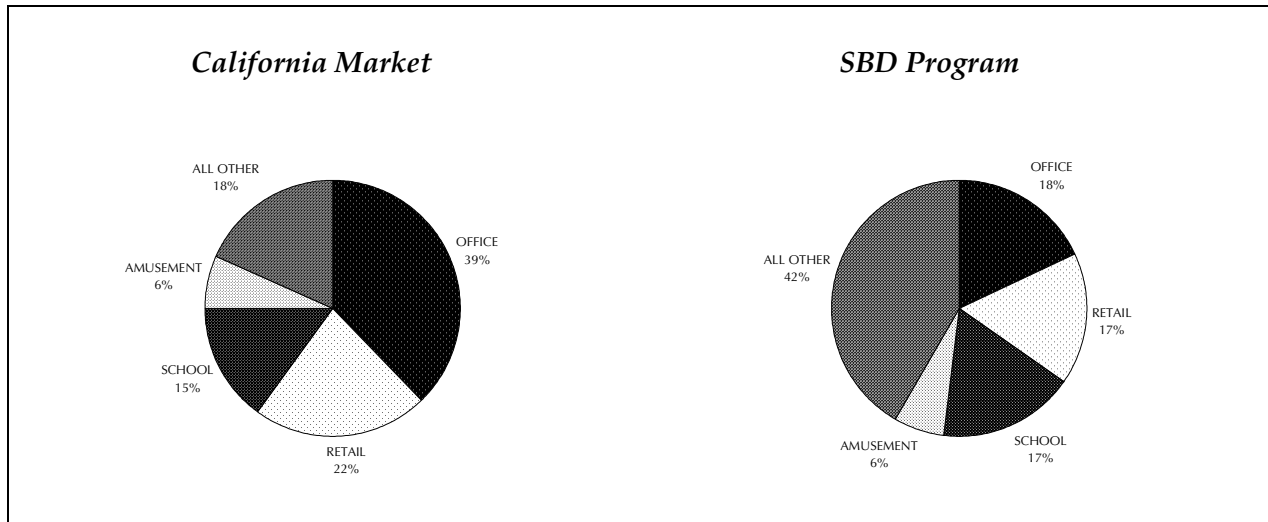
Tables 4.11-4.13 show the estimated annual MWh, kW and therm savings by measure class, for R&R projects committed in PY2002.

*Table 4.5 Number of Nonresidential R&R SBD Participants in PY2002*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	1	.	.	.	.	.	5	1	.	.	.	1	8
Systems Approach	7	2	.	.	.	4	18	20	22	2	4	40	119
Total	8	2	.	.	.	4	23	21	22	2	4	41	127
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	2	1	.	.	.	.	3
Systems Approach	1	.	.	.	.	3	3	9	11	.	2	23	52
Total	1	.	.	.	.	3	5	10	11	.	2	23	55
<b>PG&amp;E</b>													
Whole Building Approach	1	.	.	.	.	.	3	.	.	.	.	1	5
Systems Approach	6	1	.	.	.	1	14	9	5	2	1	11	50
Total	7	1	.	.	.	1	17	9	5	2	1	12	55
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	1	.	.	.	.	1	2	6	.	1	6	17
Total	.	1	.	.	.	.	1	2	6	.	1	6	17
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0

The number of R&R participants is less than half the number of new construction SBD participants (Table 3.8). The office, retail and school 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). R&R participants in PY2002 do not include any government buildings, possibly due to differences between the SBD program requirements and FEMP regulations. There are also no participants from the education (museums, libraries) and hotel segments.

**Exhibit 4.3**  
**R&R Building Segments with the Highest Number of Projects in PY2002**



*Table 4.6 Area for Nonresidential R&R SBD Participants in PY2002 (1,000 sqft)*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	23	.	.	.	.	.	414	97	.	.	.	.	534
Systems Approach	143	72	.	.	.	43	1,517	1,576	483	3	93	2,189	6,118
Total	165	72	.	.	.	43	1,931	1,673	483	3	93	2,189	6,651
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	210	97	.	.	.	.	307
Systems Approach	36	.	.	.	.	42	357	566	228	.	59	1,306	2,595
Total	36	.	.	.	.	42	567	663	228	.	59	1,306	2,902
<b>PG&amp;E</b>													
Whole Building Approach	23	.	.	.	.	.	204	.	.	.	.	.	227
Systems Approach	106	15	.	.	.	1	1,106	894	122	3	20	728	2,996
Total	129	15	.	.	.	1	1,310	894	122	3	20	728	3,222
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	57	.	.	.	.	54	116	133	.	13	154	527
Total	.	57	.	.	.	.	54	116	133	.	13	154	527
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0

The majority of SBD R&R program activity in terms of area committed in PY2002 belongs to the office, retail and school building types. The same trend holds for estimated MWh and kW savings.

*Table 4.7 Estimated Annual MWh Savings for R&R SBD Participants in PY2002*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	72	.	.	.	.	.	2,420	300	.	.	.	331	3,124
Systems Approach	108	168	.	.	.	8,925	2,753	3,445	459	1,261	533	10,505	28,158
Total	181	168	.	.	.	8,925	5,173	3,745	459	1,261	533	10,836	31,281
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	1,675	300	.	.	.	.	1,976
Systems Approach	26	.	.	.	.	8,925	405	529	203	.	498	5,689	16,275
Total	26	.	.	.	.	8,925	2,080	829	203	.	498	5,689	18,251
<b>PG&amp;E</b>													
Whole Building Approach	72	.	.	.	.	.	744	.	.	.	.	331	1,148
Systems Approach	82	30	.	.	.	1	2,302	2,779	80	1,261	23	3,148	9,705
Total	154	30	.	.	.	1	3,046	2,779	80	1,261	23	3,479	10,853
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	138	.	.	.	.	47	136	176	.	12	1,668	2,177
Total	.	138	.	.	.	.	47	136	176	.	12	1,668	2,177
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0



*Table 4.8 Estimated Annual kW Savings for R&R SBD Participants in PY2002*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	37	.	.	.	.	.	370	86	.	.	.	15	508
Systems Approach	54	40	.	.	.	479	775	757	209	150	111	1,233	3,808
Total	91	40	.	.	.	479	1,145	843	209	150	111	1,248	4,317
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	130	86	.	.	.	.	216
Systems Approach	18	.	.	.	.	478	63	125	102	.	100	555	1,440
Total	18	.	.	.	.	478	193	211	102	.	100	555	1,656
<b>PG&amp;E</b>													
Whole Building Approach	37	.	.	.	.	.	240	.	.	.	.	15	292
Systems Approach	37	8	.	.	.	1	699	604	36	150	8	488	2,030
Total	74	8	.	.	.	1	939	604	36	150	8	503	2,323
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	32	.	.	.	.	13	28	71	.	4	190	338
Total	.	32	.	.	.	.	13	28	71	.	4	190	338
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0

*Table 4.9 Estimated Annual therm Savings for R&R SBD Participants in PY2002*

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	-540	.	.	.	.	.	-1,537	.	.	.	.	.	-2,077
Systems Approach	1,701	-1,662	.	.	.	.	1,712	35,145	119	-114	4,466	139,077	180,444
Total	1,161	-1,662	.	.	.	.	175	35,145	119	-114	4,466	139,077	178,367
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0
<b>PG&amp;E</b>													
Whole Building Approach	-540	.	.	.	.	.	-1,537	.	.	.	.	.	-2,077
Systems Approach	1,701	-852	.	.	.	.	2,071	35,196	-30	-114	4,466	58,723	101,161
Total	1,161	-852	.	.	.	.	534	35,196	-30	-114	4,466	58,723	99,084
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	-810	.	.	.	.	-359	-51	149	.	.	80,354	79,283
Total	.	-810	.	.	.	.	-359	-51	149	.	.	80,354	79,283
<b>SoCalGas</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	0

*Table 4.10 Classes of Measures Installed by R&R SBD Participants in PY2002*

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	8	.	.	.	.	.	.	.	.	.	.	.	.	8
Systems Approach	.	9	.	2	36	5	40	.	77	2	4	15	16	206
Total	8	9	.	2	36	5	40	.	77	2	4	15	16	214
<b>SCE</b>														
Whole Building Approach	3	.	.	.	.	.	.	.	.	.	.	.	.	3
Systems Approach	.	4	.	1	5	.	29	.	26	.	1	8	3	77
Total	3	4	.	1	5	.	29	.	26	.	1	8	3	80
<b>PG&amp;E</b>														
Whole Building Approach	5	.	.	.	.	.	.	.	.	.	.	.	.	5
Systems Approach	.	4	.	.	25	5	.	.	34	.	3	7	9	87
Total	5	4	.	.	25	5	.	.	34	.	3	7	9	92
<b>SDG&amp;E</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	1	.	1	6	.	11	.	17	2	.	.	4	42
Total	.	1	.	1	6	.	11	.	17	2	.	.	4	42
<b>SoCalGas</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	0

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. 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 and “other HVAC” (motors, VSDs) measures most often, chillers and envelope measures very rarely, and did not install any motors in PY2002. 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.

*Table 4.11 Estimated Annual MWh Savings by Measure Class for R&R SBD Participants in PY2002*

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	3,124	.	.	.	.	.	.	.	.	.	.	.	.	3,124
Systems Approach	.	908	.	4,485	455	50	7,198	.	4,887	12	623	8,210	1,331	28,158
Total	3,124	908	.	4,485	455	50	7,198	.	4,887	12	623	8,210	1,331	31,281
<b>SCE</b>														
Whole Building Approach	1,976	.	.	.	.	.	.	.	.	.	.	.	.	1,976
Systems Approach	.	514	.	4,449	21	.	6,334	.	1,505	.	1	3,066	387	16,275
Total	1,976	514	.	4,449	21	.	6,334	.	1,505	.	1	3,066	387	18,251
<b>PG&amp;E</b>														
Whole Building Approach	1,148	.	.	.	.	.	.	.	.	.	.	.	.	1,148
Systems Approach	.	323	.	.	423	50	.	.	2,940	.	622	5,144	205	9,705
Total	1,148	323	.	.	423	50	.	.	2,940	.	622	5,144	205	10,853
<b>SDG&amp;E</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	71	.	36	11	.	865	.	442	12	.	.	740	2,177
Total	.	71	.	36	11	.	865	.	442	12	.	.	740	2,177
<b>SoCalGas</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	0

“Other HVAC” (motors, VSDs), and lighting account for the highest estimated MWh and kW savings in the R&R SBD program in PY2002. The largest therm savings are generated by the “other measures” and process measures.

*Table 4.12 Estimated Annual kW Savings by Measure Class for R&R SBD Participants in PY2002*

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	508	.	.	.	.	.	.	.	.	.	.	.	.	508
Systems Approach	.	277	.	251	415	39	593	.	1,208	3	86	751	186	3,808
Total	508	277	.	251	415	39	593	.	1,208	3	86	751	186	4,317
<b>SCE</b>														
Whole Building Approach	216	.	.	.	.	.	.	.	.	.	.	.	.	216
Systems Approach	.	123	.	234	16	.	548	.	355	.	0	158	6	1,440
Total	216	123	.	234	16	.	548	.	355	.	0	158	6	1,656
<b>PG&amp;E</b>														
Whole Building Approach	292	.	.	.	.	.	.	.	.	.	.	.	.	292
Systems Approach	.	122	.	.	393	39	.	.	736	.	86	593	61	2,030
Total	292	122	.	.	393	39	.	.	736	.	86	593	61	2,323
<b>SDG&amp;E</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	32	.	17	5	.	45	.	117	3	.	.	118	338
Total	.	32	.	17	5	.	45	.	117	3	.	.	118	338
<b>SoCalGas</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	0

*Table 4.13 Estimated Annual therm Savings by Measure Class for R&R SBD Participants in PY2002*

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	REFRIGERATION	PROCESS	OTHER	TOTAL
<b>CALIFORNIA</b>														
Whole Building Approach	-2,077	.	.	.	.	.	.	.	.	.	.	.	.	-2,077
Systems Approach	.	-6,410	.	.	-1,980	-2,691	4,557	.	-12,904	-9	-3,875	119,069	84,687	180,444
Total	-2,077	-6,410	.	.	-1,980	-2,691	4,557	.	-12,904	-9	-3,875	119,069	84,687	178,367
<b>SCE</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	0
<b>PG&amp;E</b>														
Whole Building Approach	-2,077	.	.	.	.	.	.	.	.	.	.	.	.	-2,077
Systems Approach	.	-6,279	.	.	-1,972	-2,691	.	.	-11,488	.	-3,875	119,069	8,397	101,161
Total	-2,077	-6,279	.	.	-1,972	-2,691	.	.	-11,488	.	-3,875	119,069	8,397	99,084
<b>SDG&amp;E</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	-131	.	.	-8	.	4,557	.	-1,416	-9	.	.	76,290	79,283
Total	.	-131	.	.	-8	.	4,557	.	-1,416	-9	.	.	76,290	79,283
<b>SoCalGas</b>														
Whole Building Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Systems Approach	.	.	.	.	.	.	.	.	.	.	.	.	.	0
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	0

## **5. SBD PROGRAM PENETRATION INTO THE NRNC MARKET IN PY2002**

This chapter presents SBD program penetration into the NRNC market statewide and by utility territory, in PY2002.

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 26.9%. 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 31.6%. SBD committed square feet account for 36.3% market penetration in the SCE territory; 31.3% penetration in the PG&E territory; 34.9% penetration in the SDG&E territory; and 9.6% penetration in the SoCalGas territory.

In terms of number of projects committed, the statewide new construction market penetration of the SBD program is 9.4%. In the four IOU service territories, program penetration by number of projects is 11.3%. SBD committed projects account for 15.5% market penetration in the SCE territory; 6.8% penetration in the PG&E territory; 19.8% penetration in the SDG&E territory; and 7.3% 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 2.9%. In the four IOU service territories, program penetration by number of projects is 3.6%. SBD committed projects account for 5.7% market penetration in the SCE territory; 3.3% penetration in the PG&E territory; 3.4% penetration in the SDG&E territory; and 0% penetration in SoCalGas territory.

Due to the higher number of projects selecting the systems approach, SBD program penetration is consistently higher for these projects than for those selecting the whole building approach, with the exception of new construction in PG&E territory. 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 PY2002**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2002 QTR 1-4	F. W. Dodge	12.890	143.62		4,626	
		SBD Whole Building	-	16.83	11.7%	182	3.9%
		SBD Systems Approach	-	21.80	15.2%	253	5.5%
		SBD Total	-	38.63	26.9%	435	9.4%
Alterations (R&R and TI)	2002 QTR 1-4	F. W. Dodge	3.230	-		4,343	
		SBD Whole Building	-	0.53	-	8	0.2%
		SBD Systems Approach	-	6.12	-	119	2.7%
		SBD Total	-	6.65	-	127	2.9%

**Table 5.2 SBD Program Penetration in the SCE Service Territory in PY2002**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2002 QTR 1-4	F. W. Dodge	4.116	52.43		1,357	
		SBD Whole Building	-	6.85	13.1%	77	5.7%
		SBD Systems Approach	-	12.17	23.2%	134	9.9%
		SBD Total	-	19.02	36.3%	211	15.5%
Alterations (R&R and TI)	2002 QTR 1-4	F. W. Dodge	0.717	-		965	-
		SBD Whole Building	-	0.31	-	3	0.0%
		SBD Systems Approach	-	2.59	-	52	5.4%
		SBD Total	-	2.90	-	55	5.7%

**Table 5.3 SBD Program Penetration in the PG&E Service Territory in PY2002**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2002 QTR 1-4	F. W. Dodge	4.401	41.87		1,766	
		SBD Whole Building	-	8.44	20.1%	70	4.0%
		SBD Systems Approach	-	4.67	11.2%	50	2.8%
		SBD Total	-	13.11	31.3%	120	6.8%
Alterations (R&R and TI)	2002 QTR 1-4	F. W. Dodge	1.363	-		1,646	
		SBD Whole Building	-	0.23	-	5	0.3%
		SBD Systems Approach	-	3.00	-	50	3.0%
		SBD Total	-	3.22	-	55	3.3%



**Table 5.4 SBD Program Penetration in the SDG&E Service Territory in PY2002**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2002 QTR 1-4	F. W. Dodge	1.309	15.06		405	
		SBD Whole Building	-	1.54	10.2%	34	8.4%
		SBD Systems Approach	-	3.71	24.7%	46	11.4%
		SBD Total	-	5.25	34.9%	80	19.8%
Alterations (R&R and TI)	2002 QTR 1-4	F. W. Dodge	0.389	-		500	
		SBD Whole Building	-	.	-	.	0.0%
		SBD Systems Approach	-	0.53	-	17	3.4%
		SBD Total	-	0.53	-	17	3.4%

**Table 5.5 SBD Program Penetration in the SoCalGas Service Territory in PY2002**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2002 QTR 1-4	F. W. Dodge	1.313	12.93		328	
		SBD Whole Building	-	0.00	0.0%	1	0.3%
		SBD Systems Approach	-	1.24	9.6%	23	7.0%
		SBD Total	-	1.25	9.6%	24	7.3%
Alterations (R&R and TI)	2002 QTR 1-4	F. W. Dodge	0.335	-		456	
		SBD Whole Building	-	.	-	.	0.0%
		SBD Systems Approach	-	.	-	.	0.0%
		SBD Total	-	0.00	-	0	0.0%

## **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. 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 2 and 3, there is little variation in market activity from quarter to quarter. Quarter 4, 2002, 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.

Table 6.6 summarizes Tables 6.1-6.5 and presents the market activity by year.

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.

**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	
	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		

**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	
	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	

**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	
	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	

**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	
	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	

**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	
	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	

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

<b>Program Type</b>	<b>Year</b>	<b>Quarters</b>	<b>Value \$ billions</b>	<b>Area (millions of sqft)</b>	<b>Number of Projects</b>
<b>California</b>					
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
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
<b>SCE</b>					
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
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
<b>PG&amp;E</b>					
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
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
<b>SDG&amp;E</b>					
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
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
<b>SoCalGas</b>					
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
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



**Table 6.7 Statewide SBD Program Participation Summary**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impact MW	Gas Impacts 1,000 Therms	Number of Participants	
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	
	R&R, incl. TI	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	

**Table 6.8 SBD Program Participation Summary for SCE Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impacts MW	Gas Impacts 1,000 Therms	Number of Participants	
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	
	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	

**Table 6.9 SBD Program Participation Summary for PG&E Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impacts MW	Gas Impacts 1,000 Therms	Number of Participants	
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	
	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	

**Table 6.10 SBD Program Participation Summary for SDG&E Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impacts MW	Gas Impacts 1,000 Therms	Number of Participants
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	
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	

**Table 6.11 SBD Program Participation Summary for SoCalGas Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Demand Impacts MW	Gas Impacts 1,000 Therms	Number of Participants
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	
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	

**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
<b>California</b>								
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	1177.93	1,126	576
	2002	1-4	38.63	165.17	36.27	713.35	742	435
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
<b>SCE</b>								
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
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
<b>PG&amp;E</b>								
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
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
<b>SDG&amp;E</b>								
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
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
<b>SoCalGas</b>								
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
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

**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
<b>California</b>								
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%
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%
<b>SCE</b>								
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%
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%
<b>PG&amp;E</b>								
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%
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%
<b>SDG&amp;E</b>								
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%
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%
<b>SoCalGas</b>								
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%
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%

## 7. MOST ACTIVE MARKET PLAYERS IN PY2002

This chapter presents the most active market players in PY2002, by utility territory and statewide, as reported in the F.W. Dodge "Players" database. The most active market players are defined as the architectural and engineering firms who either contributed to the highest number of projects, or contributed to projects that added up to the highest total value in PY2002. 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 or an engineer (the F.W. Dodge database also tracks owners and contractors). The data reported below are therefore subject to the limitations intrinsic to reporting within the 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 PY2002.

Table 7.2 presents the most active market players in SCE territory during PY2002.

Table 7.3 shows the most active market players in PG&E territory during PY2002.

Table 7.4 summarizes the most active market players in SDG&E territory during PY2002.

Table 7.5 shows the most active market players in SoCalGas territory during PY2002.



**Table 7.1 Most Active Market Players in California in PY2002  
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
			Total	New	Alteration	Total	New	Alteration
	City	State		Construction			Construction	
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Kaplan McLaughlin Diaz	SAN FRANCISCO	CA	613.058	610.233	2.825	17	15	2
Anshen and Allen	LOS ANGELES	CA	246.472	243.795	2.677	7	5	2
Perkowitz & Ruth Architects	LONG BEACH	CA	234.487	224.487	10.000	35	30	5
Gruen Associates	LOS ANGELES	CA	232.075	231.700	0.375	4	3	1
Morphosis Architecture	SANTA MONICA	CA	230.585	230.585	-	2	2	-
M B T Associates	SAN FRANCISCO	CA	200.461	192.984	7.477	11	6	5
Lionakis Beaumont Design Group	SACRAMENTO	CA	200.143	173.020	27.123	18	8	10
W L C Architects	RANCHO CUCAMONGA	CA	190.088	164.428	25.660	39	24	15
AC Martin Partners	LOS ANGELES	CA	190.000	190.000	-	1	1	-
Nacht & Lewis Architects	SACRAMENTO	CA	187.432	185.743	1.689	10	8	2
<b>Top 10 by Number of Projects</b>								
W L C Architects	RANCHO CUCAMONGA	CA	190.088	164.428	25.660	39	24	15
Perkowitz & Ruth Architects	LONG BEACH	CA	234.487	224.487	10.000	35	30	5
Mulvanny Architecture	BELLEVUE	WA	71.257	64.082	7.175	29	17	12
NTD Architects (Neptune Thomas Davis)	GLENDORA	CA	91.449	60.646	30.803	26	8	18
Rauschenbach Marvelli Becker & Associates	SACRAMENTO	CA	51.776	44.791	6.985	24	20	4
HMC Group	ONTARIO	CA	154.548	125.375	29.173	20	11	9
Korsunsky Krank & Erickson Architects (KKE) In	MINNEAPOLIS	MN	106.000	106.000	-	20	20	-
Leidenfrost Horowitz & Associates	GLENDALE	CA	56.964	49.187	7.625	20	13	6
Ware & Malcomb	IRVINE	CA	112.405	108.665	3.180	20	9	7
Lionakis Beaumont Design Group	SACRAMENTO	CA	200.143	173.020	27.123	18	8	10
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
Ove Arup & Partners	LOS ANGELES	CA	732.785	723.289	9.496	15	12	3
Capitol Engineering Consultants Inc	SACRAMENTO	CA	493.773	423.178	70.595	60	32	28
TMAD Engineering	PASADENA	CA	490.368	377.900	112.468	81	34	47
Ted Jacob Engineering Group Inc	OAKLAND	CA	455.028	452.958	2.070	9	8	1
John A Martin & Associates	LOS ANGELES	CA	394.317	384.517	9.800	8	7	1
The Crosby Group	REDWOOD CITY	CA	374.666	372.596	2.070	9	8	1
Sandis Associates Inc	MOUNTAIN VIEW	CA	342.415	336.409	6.006	13	8	5
MCT Engineers	SAN FRANCISCO	CA	324.873	293.430	31.443	9	5	4
Rutherford & Chekene	OAKLAND	CA	248.097	244.099	3.998	6	5	1
ANF and Associates	EL MONTE	CA	228.213	226.713	1.500	30	29	1
<b>Top 10 by Number of Projects</b>								
TMAD Engineering	PASADENA	CA	490.368	377.900	112.468	81	34	47
Capitol Engineering Consultants Inc	SACRAMENTO	CA	493.773	423.178	70.595	60	32	28
Zucco Fagent Associates	SANTA ROSA	CA	89.411	46.172	43.239	36	14	22
Frederick Brown & Associates	NEWPORT BEACH	CA	212.165	190.573	21.592	33	23	10
W H M Engineers	MORAGA	CA	101.693	80.215	21.478	33	13	20
Belden Incorporated	DUBLIN	CA	112.924	66.634	46.290	31	17	14
Dasse Design Inc	SAN FRANCISCO	CA	226.783	148.145	78.638	31	10	21
ANF and Associates	EL MONTE	CA	228.213	226.713	1.500	30	29	1
F T Andrews Inc	ANAHEIM	CA	186.079	157.606	28.473	30	20	10
B & B Associates	LOS ANGELES	CA	90.367	77.942	12.425	27	19	8

**Table 7.2 Most Active Market Players in SCE Territory in PY2002  
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
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Kaplan McLaughlin Diaz	SAN FRANCISCO	CA	246.252	246.252	-	8	8	-
Nacht & Lewis Architects	SACRAMENTO	CA	162.878	162.878	-	6	6	-
W L C Architects	RANCHO CUCAMONGA	CA	161.121	139.818	21.303	33	22	11
Perkowitz & Ruth Architects	LONG BEACH	CA	159.612	153.612	6.000	22	19	3
Anshen and Allen	LOS ANGELES	CA	157.635	156.760	0.875	3	2	1
Hill Pinckert Architects	NEWPORT BEACH	CA	103.580	101.986	1.594	8	6	2
Korsunsky Krank & Erickson Architects (KKE) In	MINNEAPOLIS	MN	101.000	101.000	-	19	19	-
HMC Group	ONTARIO	CA	85.548	70.375	15.173	18	10	8
NTD Architects (Neptune Thomas Davis)	GLENDORA	CA	84.449	53.646	30.803	25	7	18
LPA Inc	IRVINE	CA	81.141	51.136	30.005	12	5	7
<b>Top 10 by Number of Projects</b>								
W L C Architects	RANCHO CUCAMONGA	CA	161.121	139.818	21.303	33	22	11
NTD Architects (Neptune Thomas Davis)	GLENDORA	CA	84.449	53.646	30.803	25	7	18
Perkowitz & Ruth Architects	LONG BEACH	CA	159.612	153.612	6.000	22	19	3
Korsunsky Krank & Erickson Architects (KKE) In	MINNEAPOLIS	MN	101.000	101.000	-	19	19	-
HMC Group	ONTARIO	CA	85.548	70.375	15.173	18	10	8
Ware & Malcomb	IRVINE	CA	73.221	69.665	3.180	16	6	7
Flewellling & Moody Architects	PASADENA	CA	38.717	26.599	12.118	15	5	10
LPA Inc	IRVINE	CA	81.141	51.136	30.005	12	5	7
Rasmussen & Associates	VENTURA	CA	33.083	29.743	3.242	11	7	3
TDM Architects	LOS ANGELES	CA	13.077	0.800	12.277	9	1	8
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
TMAD Engineering	PASADENA	CA	264.570	183.742	80.828	59	26	33
Boyle Engineering	FRESNO	CA	196.252	196.252	-	7	7	-
Ove Arup & Partners	LOS ANGELES	CA	171.009	171.009	-	3	3	-
Frederick Brown & Associates	NEWPORT BEACH	CA	138.606	122.379	16.227	23	18	5
Sato & Boppana	LOS ANGELES	CA	129.760	129.760	-	1	1	-
K B Leung & Associates	RANCHO CUCAMONGA	CA	129.064	122.573	6.491	16	13	3
F T Andrews Inc	ANAHEIM	CA	117.259	106.784	10.475	21	16	5
ANF and Associates	EL MONTE	CA	100.890	99.390	1.500	14	13	1
Palmieri & Associates Inc	SOUTH PASADENA	CA	80.017	78.517	1.500	14	13	1
R B F Consultants	TEMECULA	CA	71.398	71.398	-	5	5	-
<b>Top 10 by Number of Projects</b>								
TMAD Engineering	PASADENA	CA	264.570	183.742	80.828	59	26	33
Frederick Brown & Associates	NEWPORT BEACH	CA	138.606	122.379	16.227	23	18	5
F T Andrews Inc	ANAHEIM	CA	117.259	106.784	10.475	21	16	5
K B Leung & Associates	RANCHO CUCAMONGA	CA	129.064	122.573	6.491	16	13	3
Nack & Associates	CARLSBAD	CA	67.700	54.072	13.628	15	10	5
ANF and Associates	EL MONTE	CA	100.890	99.390	1.500	14	13	1
Johnson & Nielson Associates	MONROVIA	CA	44.711	33.209	11.502	14	5	9
Palmieri & Associates Inc	SOUTH PASADENA	CA	80.017	78.517	1.500	14	13	1
Ambrose Engineering Inc	CEDARBURG	WI	69.000	69.000	-	13	13	-
Kanda & Tso Associates	SOUTH PASADENA	CA	46.087	27.819	18.268	13	7	6

**Table 7.3 Most Active Market Players in PG&E Territory in PY2002  
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
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Kaplan McLaughlin Diaz	SAN FRANCISCO	CA	358.206	355.381	2.825	8	6	2
Fong & Chan Architects	SAN FRANCISCO	CA	185.618	185.343	0.275	4	3	1
Herzog & De Meuron	SAN FRANCISCO	CA	165.000	165.000	-	1	1	-
M B T Associates	SAN FRANCISCO	CA	127.619	122.142	5.477	7	3	4
Sink Combs Dethlefs	DENVER	CO	116.040	116.040	-	1	1	-
RMW Architecture and Interiors	SAN FRANCISCO	CA	114.735	77.150	37.500	4	2	1
Gruen Associates	LOS ANGELES	CA	105.075	104.700	0.375	2	1	1
Moore Ruble Yudell Architects	SANTA MONICA	CA	104.700	104.700	-	1	1	-
The Steinberg Group	SAN JOSE	CA	93.053	76.779	16.274	13	5	8
VBN Corporation	OAKLAND	CA	92.195	15.301	76.894	11	4	7
<b>Top 10 by Number of Projects</b>								
Mulvanny Architecture	BELLEVUE	WA	51.550	48.150	3.400	18	13	5
Aedis/PJHM Architecture & Planning	SAN JOSE	CA	45.263	27.668	17.595	16	6	10
DES Architects + Engineers	REDWOOD CITY	CA	37.237	19.625	17.612	14	4	10
Rauschenbach Marvelli Becker & Associates	SACRAMENTO	CA	35.837	30.587	5.250	14	12	2
The Steinberg Group	SAN JOSE	CA	93.053	76.779	16.274	13	5	8
BFGC Architects Planners Inc	SAN JOSE	CA	39.383	20.555	18.828	11	4	7
VBN Corporation	OAKLAND	CA	92.195	15.301	76.894	11	4	7
Dennis Kobza & Associates	MOUNTAIN VIEW	CA	30.274	23.599	6.675	9	5	4
Kaplan McLaughlin Diaz	SAN FRANCISCO	CA	358.206	355.381	2.825	8	6	2
Bunton Clifford & Associates	FREMONT	CA	38.320	8.871	29.449	7	4	3
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
Ted Jacob Engineering Group Inc	OAKLAND	CA	367.828	365.758	2.070	7	6	1
The Crosby Group	REDWOOD CITY	CA	337.466	335.396	2.070	8	7	1
Sandis Associates Inc	MOUNTAIN VIEW	CA	332.415	326.409	6.006	12	7	5
MCT Engineers	SAN FRANCISCO	CA	322.373	290.930	31.443	8	4	4
Ove Arup & Partners	LOS ANGELES	CA	300.191	290.695	9.496	9	6	3
Rutherford & Chekene	OAKLAND	CA	225.081	221.083	3.998	4	3	1
Capitol Engineering Consultants Inc	SACRAMENTO	CA	211.534	151.294	60.240	43	19	24
Dasse Design Inc	SAN FRANCISCO	CA	165.283	98.145	67.138	29	9	20
Gayner Engineers	SAN FRANCISCO	CA	156.052	106.042	50.010	11	4	7
John A Martin & Associates	LOS ANGELES	CA	143.852	143.852	-	2	2	-
<b>Top 10 by Number of Projects</b>								
Capitol Engineering Consultants Inc	SACRAMENTO	CA	211.534	151.294	60.240	43	19	24
Zucco Fagent Associates	SANTA ROSA	CA	88.911	45.672	43.239	35	13	22
Belden Incorporated	DUBLIN	CA	112.049	65.759	46.290	30	16	14
Dasse Design Inc	SAN FRANCISCO	CA	165.283	98.145	67.138	29	9	20
W H M Engineers	MORAGA	CA	37.425	15.947	21.478	28	8	20
Horn Engineers	SANTA ROSA	CA	68.565	33.609	34.956	26	9	17
Hohbach Lewin	PALO ALTO	CA	98.311	61.383	36.928	24	15	9
Lee & Associates	MONTEREY	CA	45.307	22.768	22.539	21	5	16
Fard Engineers Inc	WALNUT CREEK	CA	70.252	58.849	11.403	19	8	11
H D Rueb S.E.	PLEASANT HILL	CA	55.053	45.848	9.205	19	13	6

**Table 7.4 Most Active Market Players in SDG&E Territory in PY2002  
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
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
NTD Architects (Neptune Thomas Davis)	SAN DIEGO	CA	116.996	110.179	6.817	9	4	5
R C Jones Design	ESCONDIDO	CA	108.679	108.679	-	3	3	-
Carrier Johnson Architects	SAN DIEGO	CA	86.511	85.563	0.948	5	4	1
Hornberger & Worstell Inc	SAN FRANCISCO	CA	80.000	80.000	-	1	1	-
Zimmer Gunsul Frasca Partnership	LOS ANGELES	CA	68.000	68.000	-	1	1	-
Austin Veum Robbins Parshalle	SAN DIEGO	CA	57.983	54.500	3.483	3	2	1
Architects Delawie Wilkes Rodrigues Barker	SAN DIEGO	CA	52.904	46.684	6.099	9	4	4
Martinez & Cutri Architects	SAN DIEGO	CA	43.436	42.800	0.450	5	3	1
Salerno/Livingston Architects	SAN DIEGO	CA	37.994	35.000	2.994	5	3	2
Architects Hanna Gabriel Wells	SAN DIEGO	CA	37.752	37.752	-	2	2	-
<b>Top 10 by Number of Projects</b>								
Facility Solutions	SAN DIEGO	CA	4.369	-	3.777	13	-	9
Architects Delawie Wilkes Rodrigues Barker	SAN DIEGO	CA	52.904	46.684	6.099	9	4	4
NTD Architects (Neptune Thomas Davis)	SAN DIEGO	CA	116.996	110.179	6.817	9	4	5
Sgpa Architecture & Planning	SAN DIEGO	CA	37.344	37.210	-	8	7	-
Cipparone Architecture	SAN DIEGO	CA	30.929	26.929	4.000	7	5	2
James R Murray Architects & Planners	SAN DIEGO	CA	0.888	-	0.888	7	-	7
Sprotte & Watson Architecture & Planning	VISTA	CA	28.461	15.400	13.061	7	2	5
HMC Group	SAN DIEGO	CA	24.891	-	24.891	6	-	6
McGraw/Baldwin Architects	SAN DIEGO	CA	14.529	12.500	1.828	6	1	3
MCG Architects Inc	PASADENA	CA	5.696	4.749	0.947	6	4	2
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
Johnson Consulting Engineers Inc	POWAY	CA	173.989	144.386	29.603	14	7	7
Merrick & Associates	SAN DIEGO	CA	145.914	116.526	29.388	11	5	6
Burkett & Wong	SAN DIEGO	CA	135.446	102.151	33.295	17	10	7
Skilling Ward Magnusson Barkshire Inc	SEATTLE	WA	130.000	130.000	-	2	2	-
Randall Lamb Associates	SAN DIEGO	CA	127.245	121.343	5.902	8	6	2
KNA Consulting Engineers Inc	LAGUNA HILLS	CA	119.023	116.179	2.844	7	4	3
BDS Engineering Inc	LEMON GROVE	CA	113.961	108.679	5.282	4	3	1
Nowak Wiseman & Associates	SAN DIEGO	CA	111.649	97.963	13.686	19	13	6
Project Design Consultants	SAN DIEGO	CA	100.000	100.000	-	2	2	-
Flack & Kurtz Consulting Engineers	SAN FRANCISCO	CA	80.000	80.000	-	1	1	-
<b>Top 10 by Number of Projects</b>								
Nowak Wiseman & Associates	SAN DIEGO	CA	111.649	97.963	13.686	19	13	6
Burkett & Wong	SAN DIEGO	CA	135.446	102.151	33.295	17	10	7
HVAC Engineering Inc	SAN DIEGO	CA	57.305	34.842	22.463	14	5	9
Johnson Consulting Engineers Inc	POWAY	CA	173.989	144.386	29.603	14	7	7
Turpin & Rattan Engineering	SAN DIEGO	CA	45.283	14.546	30.737	14	4	10
Flores Lund Mobayed	SAN DIEGO	CA	41.318	15.354	25.964	13	6	7
Merrick & Associates	SAN DIEGO	CA	145.914	116.526	29.388	11	5	6
Stedman & Dyson	SAN DIEGO	CA	60.300	21.769	38.531	11	3	8
Syska Hennessy Group	SAN DIEGO	CA	28.750	10.883	17.867	10	2	8
ILA Zammit Engineering	SAN DIEGO	CA	71.206	63.669	7.537	9	5	4

**Table 7.5 Most Active Market Players in SoCalGas Territory in PY2002  
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						
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
AC Martin Partners	LOS ANGELES	CA	190.000	190.000	-	1	1	-
Morphosis Architecture	SANTA MONICA	CA	190.000	190.000	-	1	1	-
Gruen Associates	LOS ANGELES	CA	125.000	125.000	-	1	1	-
Nakada & Assocs	LOS ANGELES	CA	125.000	125.000	-	1	1	-
Lee Burkhart Liu	SANTA MONICA	CA	90.000	90.000	-	1	1	-
Anshen and Allen	LOS ANGELES	CA	81.802	80.000	1.802	3	2	1
HMC Group	ONTARIO	CA	69.000	55.000	14.000	2	1	1
Langdon Wilson Architecture	LOS ANGELES	CA	69.000	69.000	-	1	1	-
SmithGroup	LOS ANGELES	CA	60.000	60.000	-	1	1	-
Hardy Holzman Pfeiffer Associates	LOS ANGELES	CA	53.955	38.730	15.225	2	1	1
<b>Top 10 by Number of Projects</b>								
Carde Ten Architects	SANTA MONICA	CA	6.508	5.736	0.772	5	3	2
Ralph Allen & Partners	SANTA ANA	CA	27.418	12.000	15.418	5	1	4
WWCOT Architects	SANTA MONICA	CA	34.188	32.598	1.590	5	2	3
Sanders Inc Architecture/Engineering	BRAWLEY	CA	8.764	7.626	1.138	4	2	2
Poliquin Kellogg Design	WOODLAND HILLS	CA	48.442	35.000	13.442	4	1	3
Tetra Design Incorporated	LOS ANGELES	CA	4.971	3.140	1.831	4	1	3
Anshen and Allen	LOS ANGELES	CA	81.802	80.000	1.802	3	2	1
Dmjim Rottet	LOS ANGELES	CA	13.660	12.295	1.365	3	1	2
B F L Owen Group	IRVINE	CA	1.710	-	1.710	3	-	3
Killefer Flaming Purtil Architects	STA MONICA	CA	5.348	3.198	2.000	3	1	1
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
John A Martin & Associates	LOS ANGELES	CA	210.800	201.000	9.800	3	2	1
Ove Arup & Partners	LOS ANGELES	CA	190.000	190.000	-	1	1	-
TMAD Engineering	PASADENA	CA	188.861	169.048	19.813	12	6	6
Brandow & Johnston Associates	LOS ANGELES	CA	109.681	107.450	2.231	5	3	2
Nabih Youssef	LOS ANGELES	CA	69.115	45.000	24.115	3	1	2
Store Matakovich & Wolfberg	SOUTH EL MONTE	CA	60.000	60.000	-	1	1	-
ACEA Inc/Associated Consulting Engrs	ARCADIA	CA	55.000	55.000	-	1	1	-
William J Yang & Assocs	BURBANK	CA	50.976	48.816	2.160	6	5	1
F T Andrews Inc	ANAHEIM	CA	48.418	33.000	15.418	6	2	4
Grossman & Speer Associates Inc	GLENDALE	CA	38.129	20.513	17.616	5	3	2
<b>Top 10 by Number of Projects</b>								
TMAD Engineering	PASADENA	CA	188.861	169.048	19.813	12	6	6
Jones Khiaban Engineering	VAN NUYS	CA	23.728	-	23.728	7	-	7
F T Andrews Inc	ANAHEIM	CA	48.418	33.000	15.418	6	2	4
William J Yang & Assocs	BURBANK	CA	50.976	48.816	2.160	6	5	1
Brandow & Johnston Associates	LOS ANGELES	CA	109.681	107.450	2.231	5	3	2
Grossman & Speer Associates Inc	GLENDALE	CA	38.129	20.513	17.616	5	3	2
Johnson & Nielsen	IRVINE	CA	27.418	12.000	15.418	5	1	4
Mullen & Assocs	ANAHEIM	CA	27.418	12.000	15.418	5	1	4
Pacific Engineers Group Inc	NORTH HOLLYWOOD	CA	6.630	3.140	3.490	4	1	3
ANF and Associates	EL MONTE	CA	16.750	16.750	-	3	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 PY2002

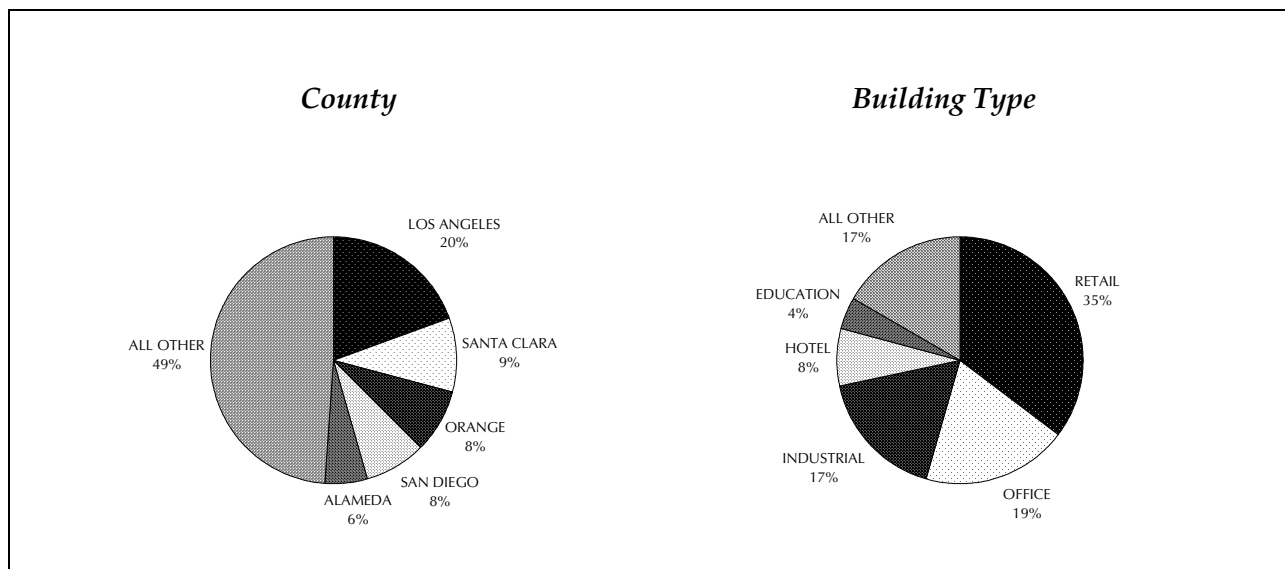
This Appendix presents information on the value of nonresidential new construction permits that were filed in PY2002 in the State of California. The data were collected by the Construction Industry Research Board from the more than 515 city and county building departments in California.

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 PY2002, by building type. As shown in Exhibit B.1 below, Los Angeles, Santa Clara, Orange, San Diego and Alameda Counties account for the highest value of permits filed in the State during PY2002. Conversely, Sierra, Alpine, Modoc and Plumas Counties had the lowest volume of permit activity in PY2002. Among building types, the highest permit value was recorded in the retail, office and industrial segments, but the hotel and education (museums, libraries) 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 PY2002**



**Table B.1 CIRB Statewide Nonresidential Permit Valuation in PY2002  
by Building Type and County (\$1,000)**

COUNTY	AMUSEMENT	CHURCH	HOTEL	MEDICAL	OFFICE	OTHER	EDUCATION	RETAIL	SERVICE	INDUSTRIAL	TOTAL NEW	ALTERATION	TOTAL
ALAMEDA	1,800	2,209	2,995	25,950	95,849	7,751	8,321	115,258	4,858	86,495	351,485	369,882	721,367
ALPINE	.	.	.	.	.	267	.	.	.	.	267	75	342
AMADOR	.	.	.	.	.	5	.	362	192	.	559	472	1,030
BUTTE	.	.	200	1,611	11,749	2,529	.	9,306	329	2,592	28,317	15,009	43,326
CALAVERAS	.	.	7,144	.	.	1,670	.	746	.	.	9,560	4,810	14,370
COLUSA	.	.	.	.	.	1,433	.	1,601	.	1,400	4,434	425	4,859
CONTRA COSTA	14,135	6,328	.	.	34,619	22,242	2,674	76,498	1,310	9,316	167,122	143,628	310,749
DEL NORTE	.	.	2,720	.	177	1,834	.	1,060	.	.	5,792	943	6,735
EL DORADO	.	4,227	.	.	5,930	5,594	.	23,541	272	.	39,565	13,491	53,056
FRESNO	308	4,980	.	27,543	65,618	8,831	750	62,127	684	55,549	226,391	61,959	288,350
GLENN	.	.	2,400	.	603	3,757	.	400	.	.	7,161	1,579	8,739
HUMBOLDT	.	.	3,500	.	.	1,506	.	7,951	.	1,005	13,963	7,568	21,531
IMPERIAL	.	820	2,079	.	10,460	2,921	.	13,220	.	.	29,501	10,955	40,455
INYO	.	.	.	.	.	80	.	.	.	.	80	434	514
KERN	3,380	1,074	753	2,994	27,449	35,538	.	77,906	537	17,140	166,772	59,488	226,260
KINGS	.	.	2,528	.	775	2,718	146	10,583	463	392	17,605	5,942	23,547
LAKE	.	.	.	.	247	637	.	929	.	.	1,813	513	2,326
LASSEN	.	.	.	.	.	712	.	847	.	.	1,559	3,409	4,968
LOS ANGELES	43,567	14,332	63,439	19,521	209,401	71,381	48,246	458,957	11,259	225,428	1,165,532	1,297,057	2,462,589
MADERA	.	.	.	.	219	7,882	1,200	1,185	190	2,979	13,654	6,252	19,907
MARIN	.	.	.	.	5,903	1,659	1,080	650	.	.	9,292	57,463	66,756
MARIPOSA	.	.	.	.	.	716	.	700	.	322	1,738	998	2,737
MENDOCINO	.	969	575	.	1,574	4,378	.	2,839	.	417	10,752	7,927	18,679
MERCED	1,347	6,276	1,513	.	3,292	20,127	.	3,460	420	3,462	39,897	15,705	55,602
MODOC	.	.	.	.	.	868	.	.	500	192	1,560	82	1,642
MONO	.	.	.	.	514	204	.	2,187	.	2,359	5,265	562	5,827
MONTREY	11,600	1,277	9,917	.	10,532	9,394	1,128	21,543	1,686	5,534	72,611	48,166	120,777
NAPA	6,185	.	4,779	.	10,060	9,054	.	16,404	.	7,503	53,985	32,689	86,675
NEVADA	831	.	.	.	1,832	4,541	.	401	355	1,784	9,744	3,510	13,254
ORANGE	34,755	14,106	34,509	1,124	150,425	9,718	4,526	194,349	8,382	61,672	513,565	555,696	1,069,261
PLACER	2,157	8,411	6,155	1,139	56,666	3,570	.	70,412	1,514	3,858	153,881	57,146	211,027
PLUMAS	.	.	.	.	.	763	.	181	.	.	944	384	1,328
RIVERSIDE	12,935	4,041	8,412	1,507	35,844	26,063	10,755	231,475	2,705	80,882	414,618	174,786	589,404
SACRAMENTO	10,704	2,261	31,572	.	73,527	4,353	3,569	75,683	2,116	66,978	270,763	212,553	483,316
SAN BENITO	.	.	.	.	.	1,118	.	3,175	.	923	5,216	3,751	8,966
SAN BERNARDINO	8,770	17,470	16,419	6,179	29,991	19,936	14,850	162,766	3,813	243,003	523,196	124,722	647,918
SAN DIEGO	14,456	10,484	97,200	39,578	119,185	39,312	13,483	139,569	5,894	128,044	607,205	394,661	1,001,866
SAN FRANCISCO	58,000	.	119,095	3,900	13,715	372	13,040	173,519	400	5,000	387,041	328,955	715,996
SAN JOAQUIN	2,860	2,451	5,247	.	2,506	13,244	22,565	93,167	1,799	28,533	172,372	102,444	274,816
SAN LUIS OBISPO	.	1,380	20,242	.	12,556	13,224	.	21,110	250	4,674	73,436	35,417	108,852
SAN MATEO	7,034	1,692	3,240	713	103,473	9,119	35,222	54,819	.	12,421	227,734	241,588	469,322
SANTA BARBARA	441	.	.	10,612	11,686	18,101	8,000	18,518	406	7,284	75,049	45,857	120,906
SANTA CLARA	1,691	19,000	54,558	66,853	157,618	7,492	121,895	136,253	6,337	27,502	599,199	597,339	1,196,538
SANTA CRUZ	.	.	723	.	373	1,990	3,477	1,055	750	.	8,368	15,909	24,277
SHASTA	.	1,871	4,680	4,199	14,690	4,479	.	13,883	.	3,813	47,614	14,369	61,983
SIERRA	.	.	.	.	.	132	.	.	.	.	132	87	219
SISKIYOU	.	268	.	.	.	1,447	.	1,287	.	.	3,002	4,829	7,831
SOLANO	.	3,922	.	.	10,143	7,133	.	32,694	.	38,151	92,044	37,037	129,081
SONOMA	5,206	8,871	19,894	4,000	50,121	11,327	.	50,369	3,633	8,861	162,281	62,599	224,880
STANISLAUS	.	3,244	2,846	5,582	15,186	26,761	231	35,929	2,905	12,531	105,214	61,099	166,313
SUTTER	.	1,200	.	2,200	3,272	1,990	.	1,823	.	1,467	11,953	4,659	16,612
TEHAMA	.	.	.	627	5,592	.	.	1,879	268	.	8,366	1,514	9,879
TRINITY	.	.	.	.	.	218	.	33	.	.	252	607	858
TULARE	1,544	3,552	.	1,800	10,631	12,168	750	18,912	150	6,059	55,566	16,387	71,954
TUOLUMNE	2,159	957	.	2,254	1,746	3,404	.	1,505	.	.	12,026	7,790	19,816
VENTURA	2,038	2,570	11,131	8,248	5,477	7,001	467	80,779	377	31,083	149,171	96,773	245,945
YOLO	.	3,400	3,332	.	3,709	3,672	.	14,876	1,900	29,178	60,066	18,311	78,377
YUBA	.	.	.	.	6,800	2,995	.	7,223	.	.	17,018	2,538	19,556
CALIFORNIA	247,905	153,644	543,796	237,507	1,386,771	486,925	316,375	2,547,903	66,654	1,225,787	7,213,267	5,390,799	12,604,066



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 PY2002  
by Quarter and County (\$1,000)**

COUNTY	NEW CONSTRUCTION					ADDITIONS AND ALTERATIONS					2002 TOTAL
	Q1, 2002	Q2, 2002	Q3, 2002	Q4, 2002	2002 Total	Q1, 2002	Q2, 2002	Q3, 2002	Q4, 2002	2002 Total	
ALAMEDA	71,720	126,171	93,859	59,734	351,485	80,507	98,673	95,502	95,200	369,882	721,367
ALPINE	0	267	0	0	267	.	.	.	75	75	342
AMADOR	0	192	5	362	559	45	120	116	192	472	1,030
BUTTE	6,213	9,566	7,415	5,123	28,317	5,407	3,773	3,137	2,691	15,009	43,326
CALAVERAS	466	672	8,023	399	9,560	1,228	1,294	1,201	1,087	4,810	14,370
COLUSA	554	2,412	923	546	4,434	276	73	34	42	425	4,859
CONTRA COSTA	31,116	49,821	45,003	41,182	167,122	30,223	31,353	47,061	34,991	143,628	310,749
DEL NORTE	1,410	278	3,269	835	5,792	546	14	166	218	943	6,735
EL DORADO	4,825	11,880	11,338	11,522	39,565	3,330	2,028	4,028	4,105	13,491	53,056
FRESNO	45,590	41,441	66,275	73,085	226,391	14,697	18,782	13,366	15,115	61,959	288,350
GLENN	1,160	3,243	2,160	598	7,161	226	8	881	464	1,579	8,739
HUMBOLDT	4,768	1,340	6,252	1,602	13,963	1,567	1,297	2,375	2,330	7,568	21,531
IMPERIAL	12,315	2,740	8,807	5,640	29,501	802	4,788	2,276	3,090	10,955	40,455
INYO	74	6	0	0	80	150	122	155	8	434	514
KERN	73,121	27,787	36,576	29,288	166,772	14,283	18,521	16,930	9,754	59,488	226,260
KINGS	2,891	10,355	2,661	1,698	17,605	1,238	1,772	934	1,998	5,942	23,547
LAKE	691	452	593	77	1,813	99	236	98	81	513	2,326
LASSEN	704	384	312	160	1,559	524	430	1,788	668	3,409	4,968
LOS ANGELES	204,572	356,184	299,464	305,313	1,165,532	318,280	357,493	341,912	279,371	1,297,057	2,462,589
MADERA	1,332	3,598	6,328	2,397	13,654	1,532	1,195	1,337	2,189	6,252	19,907
MARIN	6,347	1,542	678	725	9,292	11,601	23,886	14,613	7,363	57,463	66,756
MARIPOSA	226	850	163	499	1,738	106	94	192	606	998	2,737
MENDOCINO	2,423	3,180	2,118	3,031	10,752	1,211	1,953	3,764	1,000	7,927	18,679
MERCED	4,413	13,168	15,674	6,642	39,897	5,256	3,816	3,331	3,302	15,705	55,602
MODOC	51	359	317	834	1,560	.	3	79	.	82	1,642
MONO	14	802	4,434	14	5,265	50	197	163	152	562	5,827
MONTEREY	16,234	17,695	17,422	21,260	72,611	18,163	10,359	7,382	12,262	48,166	120,777
NAPA	5,168	10,520	29,207	9,090	53,985	11,171	8,624	7,719	5,175	32,689	86,675
NEVADA	1,705	966	2,523	4,551	9,744	261	1,000	869	1,381	3,510	13,254
ORANGE	96,771	135,157	135,077	146,560	513,565	120,777	166,693	140,614	127,612	555,696	1,069,261
PLACER	43,039	33,765	52,629	24,450	153,881	10,885	20,191	12,669	13,401	57,146	211,027
PLUMAS	69	47	646	182	944	25	128	201	29	384	1,328
RIVERSIDE	73,293	120,208	140,204	80,914	414,618	34,860	48,320	47,498	44,108	174,786	589,404
SACRAMENTO	71,422	56,766	65,532	77,043	270,763	58,780	50,330	55,950	47,493	212,553	483,316
SAN BENITO	2,156	234	1,088	1,738	5,216	176	720	272	2,583	3,751	8,966
SAN BERNARDINO	99,707	127,264	129,477	166,748	523,196	30,776	31,284	31,040	31,622	124,722	647,918
SAN DIEGO	144,675	174,162	166,935	121,433	607,205	93,105	104,898	93,941	102,716	394,661	1,001,866
SAN FRANCISCO	39,306	30,331	20,274	297,130	387,041	91,552	88,954	74,953	73,496	328,955	715,996
SAN JOAQUIN	47,466	56,013	29,060	39,834	172,372	25,530	26,137	23,766	27,012	102,444	274,816
SAN LUIS OBISPO	21,584	26,866	10,814	14,172	73,436	10,608	8,861	8,207	7,741	35,417	108,852
SAN MATEO	60,111	53,618	26,122	87,883	227,734	60,763	102,507	40,738	37,580	241,588	469,322
SANTA BARBARA	21,225	9,307	18,612	25,905	75,049	14,634	13,412	8,790	9,021	45,857	120,906
SANTA CLARA	194,017	123,216	217,767	64,199	599,199	136,259	141,808	154,573	164,700	597,339	1,196,538
SANTA CRUZ	374	874	4,843	2,277	8,368	5,317	4,515	2,070	4,008	15,909	24,277
SHASTA	10,495	7,769	14,756	14,594	47,614	5,189	2,548	4,070	2,563	14,369	61,983
SIERRA	33	3	74	22	132	.	67	20	.	87	219
SISKIYOU	218	355	1,455	974	3,002	1,414	670	2,163	582	4,829	7,831
SOLANO	17,984	30,371	27,908	15,781	92,044	6,457	13,405	9,026	8,151	37,037	129,081
SONOMA	27,665	49,784	33,803	51,029	162,281	15,694	15,704	16,875	14,326	62,599	224,880
STANISLAUS	28,494	24,116	28,847	23,758	105,214	14,459	12,283	14,510	19,846	61,099	166,313
SUTTER	1,586	3,850	2,168	4,350	11,953	2,122	824	1,183	530	4,659	16,612
TEHAMA	2,750	1,110	2,996	1,510	8,366	586	96	422	410	1,514	9,879
TRINITY	9	35	121	86	252	53	35	514	5	607	858
TULARE	12,028	10,752	12,479	20,307	55,566	4,124	4,850	3,328	4,086	16,387	71,954
TUOLUMNE	2,772	1,467	3,416	4,370	12,026	4,033	467	597	2,693	7,790	19,816
VENTURA	37,540	23,903	48,180	39,549	149,171	23,557	26,049	27,005	20,163	96,773	245,945
YOLO	4,645	34,837	14,300	6,283	60,066	5,668	3,349	4,403	4,892	18,311	78,377
YUBA	1,380	6,843	843	7,952	17,018	837	135	599	967	2,538	19,556
CALIFORNIA	1,562,916	1,840,892	1,882,223	1,927,236	7,213,267	1,301,014	1,481,144	1,351,398	1,257,243	5,390,799	12,604,066

**Table B.3 CIRB Nonresidential Permit Valuation in PY2002  
by Quarter and Building Type (\$1,000)**

	AMUSEMENT	CHURCH	HOTEL	MEDICAL	OFFICE	OTHER	EDUCATION	RETAIL	SERVICE	INDUSTRIAL	TOTAL NEW	ALTERATION	TOTAL
<b>CALIFORNIA</b>													
Q1, 2002	74,715	24,928	113,501	54,943	304,372	101,152	68,121	563,095	14,253	243,837	1,562,916	1,301,014	2,863,930
Q2, 2002	42,680	41,797	130,257	19,287	446,691	122,783	40,112	658,190	14,200	324,895	1,840,892	1,481,144	3,322,036
Q3, 2002	47,387	54,991	141,249	113,117	289,412	143,806	133,774	633,308	14,762	310,419	1,882,223	1,351,398	3,233,621
Q4, 2002	83,123	31,928	158,790	50,160	346,296	119,184	74,368	693,311	23,440	346,636	1,927,236	1,257,243	3,184,479
2002 Total	247,905	153,644	543,796	237,507	1,386,771	486,925	316,375	2,547,903	66,654	1,225,787	7,213,267	5,390,799	12,604,066

***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
Daylighting	Daylighting measures
Skylight	Skylights
HVAC chiller	High-efficiency chillers
HVAC package	High-efficiency unitary systems
HVAC controls	Controls for HVAC systems
HVAC other	Other measures labeled as “HVAC”, including air handling units, pumps, variable speed drives, and other measures specifically labeled “HVAC”.
Motors	High-efficiency motors and other measures labeled as “motors”
Lighting	Lighting measures, including lighting power density reduction
Envelope	Envelope measures, including insulation and windows
Other	Refrigeration, 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”, and measures labeled “other” or “miscellaneous”.