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IDAHO PUBLIC  
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER )  
COMPANY'S APPLICATION FOR A ) CASE NO. IPC-E-09-03  
CERTIFICATE OF PUBLIC CONVENIENCE )  
AND NECESSITY FOR THE LANGLEY )  
GULCH POWER PLANT. )  

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IDAHO POWER COMPANY  
DIRECT REBUTTAL TESTIMONY  
OF  
MICHAEL MACE

1 Q. Please state your name, address, and  
2 employment.

3 A. My name is Michael Mace. I am an  
4 independent consultant. My address is 3416 Leland Street,  
5 Rocklin, California 95765. I have over thirty years  
6 experience in the electric utility industry, working for  
7 both public and private electric utilities as well as the  
8 California ISO. My resume is attached as Exhibit No. 12.

9 Q. On whose behalf are you testifying?

10 A. I am testifying on behalf of Idaho Power  
11 Company. I have been engaged by the Company since February  
12 2009 to assist in their economic and load forecasting  
13 process.

14 Q. What is the purpose of your testimony?

15 A. The purpose of my testimony is to comment  
16 and correct some of the assertions made by witnesses Yankel  
17 and Mitchell with regards to economic conditions and  
18 economic growth in the Idaho Power Company ("Idaho Power"  
19 or "Company") service area as well as recent Company load  
20 forecasts. I will also evaluate some of their assertions  
21 by referencing Idaho Power's recently acquired  
22 macroeconomic forecast from Moody's Inc.

1           Q.       What is your response to Mr. Yankel's claim  
2 on page 2 of his testimony that the Company's decision to  
3 build Langley Gulch is based upon outdated information?

4           A.       Mr. Yankel goes to great lengths to  
5 criticize Idaho Power's forecasting process without  
6 addressing one of the central issues: The timing of these  
7 forecasts with regard to lead time requirements of the  
8 planning process. It is quite easy to criticize forecasts  
9 that do not include the very most recent information, given  
10 that hindsight is an exact science. The issue here is that  
11 Idaho Power, like any other utility with significant lead  
12 time requirements for power plant construction, is engaged  
13 in decision making under uncertainty.

14           The construction of power plants requires forecasts  
15 based on reasonable assumptions and practices. Load  
16 forecasts must accommodate the necessary lead times  
17 required for the siting and construction of new generation.  
18 As per the testimony of Company witness Vern Porter, Idaho  
19 Power was required to reserve and pay reservation fees for  
20 critical equipment well in advance of when the Company  
21 would otherwise choose to commit itself in order to bring  
22 Langley Gulch on-line in time to meet the resource  
23 requirements that were forecast at that point in time.

1           My review of the Company's August 2007, August 2008,  
2 and May 2009 load forecasts leads me to conclude that these  
3 forecasts were reasonable, especially in light of the rapid  
4 economic growth experienced in the Idaho Power service area  
5 over the last decade. Since the August 2008 load forecast,  
6 economic conditions have worsened considerably, but last  
7 fall's credit crisis and subsequent shock to the "real"  
8 economy were outside the boundaries of "reasonable  
9 forecasts," i.e., it was an event that could not have been  
10 forecast to occur, not even in a worst case planning  
11 scenario. The few economists who did forecast last fall's  
12 events were considered extremist or delusional.

13           Q.       Shouldn't Idaho Power have anticipated the  
14 economic downturn that occurred last fall?

15           A.       The financial panic that occurred during the  
16 fall of 2008 changed everyone's assessment of the short-  
17 term economic performance for Idaho, the U.S., as well as  
18 most every other country worldwide. Very few professional  
19 economists, including the macroeconomic forecasting  
20 services such as Global Insight and Moody's, nor the Idaho  
21 State Division of Financial Management ("DFM") had forecast  
22 the severity of the economic downturn that began last fall.  
23 This is demonstrated in Mr. Yankel's testimony in his  
24 discussion of the ratcheting down of the DFM economic

1 forecast for the state of Idaho. To illustrate how  
2 recently the DFM forecast has changed, I have prepared  
3 Exhibits Nos. 13 and 14, which compare recent DFM forecasts  
4 of employment and housing stock additions for the state of  
5 Idaho.

6 Q. What about the assertion that Idaho Power's  
7 forecasts did not incorporate the worsening economic  
8 conditions?

9 A. Idaho Power's load forecasts progressively  
10 reflected a slowing economy in the Idaho Power service  
11 area. Exhibit No. 15 shows a comparison of the different  
12 Company forecasts of residential customers over the period  
13 of August 2005 through December 2008. Clearly, the Company  
14 forecasts were incorporating the most recent information  
15 available with regards to the slowing housing market, but  
16 do not reflect the severity of the crash that occurred last  
17 fall. In fact, the graph demonstrates that the 2006 IRP  
18 forecast initially under-forecast the residential customers  
19 being added to the system.

20 Q. What changes were made to the Company's  
21 recent May 2009 load forecast revision?

22 A. The May 2009 forecast revision was based on  
23 the December 2008 forecast, which substantially reduced  
24 customer growth for both the residential and commercial

1 classes. In fact, the May 2009 residential customer  
2 forecast is currently under-predicting the residential  
3 customers recently added to the Idaho Power system. The  
4 May 2009 forecast also incorporates the latest changes to  
5 Idaho Power's special contract industrial customers and is  
6 about 555,000 MWh lower for 2009 than the forecast made in  
7 August 2008. It is my understanding that the May 2009  
8 forecast revision is the basis for the load/resource  
9 balance presented by Company witness Bokenkamp in this  
10 proceeding.

11 Q. Do you think that the May 2009 load forecast  
12 does a better job of representing the impact of the  
13 recession on forecasted loads for Idaho Power?

14 A. Compared to both the August 2008 forecast  
15 and the December 2008 forecast, the May 2009 revision more  
16 accurately reflects the short-term impacts of the current  
17 recession.

18 Q. Does the current recession mean that rapid  
19 economic growth will no longer occur in southern Idaho?

20 A. No. There is no doubt that economic  
21 conditions are slow right now, but even the most recent DFM  
22 forecast, referenced by Mr. Yankel in his testimony, shows  
23 a recovery beginning later this year and continuing through  
24 2010, 2011, and 2012.

1           Q.       What is the basis for the expectation of  
2 renewed economic growth in southern Idaho?

3           A.       Southern Idaho has many economic advantages  
4 compared to many other areas. First and foremost, Idaho  
5 has relatively low costs for both consumers and businesses.  
6 There are a lot of other amenities in the Idaho Power  
7 service area that attract people from all over the country.  
8 Boise is regularly feted in national magazines as one of  
9 the best places to live. It may be the case that the  
10 traditional "people-follow-jobs" thinking is more the case  
11 of "jobs-following-people" for Idaho. The result of these  
12 differences is that Idaho Power's service area population  
13 growth rate has grown at two and one-half times the  
14 national average rate over the last twenty years, much of  
15 that due to in-migration from other states.

16           Considering the current economic and legislative  
17 troubles in California, there could be a significant  
18 increase in out-migration from California. While in-  
19 migration has played a significant role in Idaho's growth,  
20 the near term could see ever higher in-migration to Idaho,  
21 higher than that forecast by the most recent Global Insight  
22 forecast cited in Mr. Yankel's and Ms. Mitchell's  
23 testimonies.

1           While Idaho's economy more closely resembles the  
2 national economy now as opposed to twenty-five years ago,  
3 it is certainly not immune from recession. It is quite  
4 possible that the Idaho Power service area could grow  
5 rapidly even if the rest of the country is not doing well.  
6 Attached as Exhibit No. 16 is a recent article from the  
7 Idaho Statesman. The article quotes Addison Franz, a  
8 Moody's economist, stating that Idaho may lead the country  
9 out of the current recession. Both myself and other Idaho  
10 Power personnel have had discussions with Ms. Franz about  
11 the Boise MSA and Idaho economic forecasts.

12           Q.       Both Ms. Mitchell and Mr. Yankel criticize  
13 the Company's load forecasts for failing to reflect the  
14 worsening economic conditions as a result of the national  
15 recession. Do their criticisms have merit?

16           A.       In Ms. Mitchell's direct testimony on page 5  
17 she states:

18                   Without reviewing the underlying key  
19                   demographic and economic indicators  
20                   that drive IPCs' PR 84 2009 IRP, it  
21                   is not possible to determine the  
22                   extent to which the more current  
23                   load forecast reasonably reflects  
24                   the near- and possibly longer-term  
25                   effects of the current recession.  
26                   However, on the face of it certainly  
27                   does not appear that the Company has

1 not adjusted its 2009 IRP load  
2 forecast per Staff Production  
3 Request #84 or any other previous  
4 load forecasts to reflect the  
5 current recession.

6 Not only does witness Mitchell admit that she has  
7 not reviewed "the underlying key demographic and economic  
8 indicators" that drive the 2009 IRP forecast, she has also  
9 failed to review and understand some of the key drivers of  
10 the individual load forecasts. The conclusions she  
11 attempts to develop in her Exhibit No. 207 are misleading  
12 and misrepresent facts.

13 In Exhibit No. 207, Ms. Mitchell tabulates Idaho  
14 Power's system average load (70th percentile) and system  
15 peak demand (95 percentile) forecasts for the 2006 IRP,  
16 August 2007, and August 2008. She also reports the monthly  
17 differences between the more recent August 2008 forecast  
18 and the August 2007 and August 2006 forecasts. The point  
19 she is attempting to make is that Idaho Power has not  
20 sufficiently adjusted its load forecasts downward as much  
21 as she thinks they should have been due to the economic  
22 conditions that have changed over the past several years.  
23 What she has failed to consider are the load impacts that  
24 one customer, Hoku Materials, Inc., has had on the  
25 forecasts of system load and system peak demand that she is  
26 reporting in Exhibit No. 207. Prior to making her

1 suppositions and drawing misleading conclusions concerning  
2 the load forecasts, she should have made an effort to  
3 understand the composition of the load forecast figures  
4 being reported.

5           Mr. Yankel, in his testimony, makes the same  
6 mistakes as witness Mitchell. In his table on page 19 of  
7 his testimony labeled "Ave MW Forecasted at Different  
8 Times," Mr. Yankel reports the monthly differences in 2009  
9 between the 2006 IRP, 2008 IRP Update, 2009 IRP, and  
10 December 2008 forecasts and compares the difference between  
11 the December 2008 and 2006 IRP forecasts. The conclusions  
12 he attempts to develop in his table are also misleading and  
13 misrepresent facts.

14           Like Ms. Mitchell, Mr. Yankel does not include the  
15 loads of Hoku Materials, Inc., in the 2006 IRP load  
16 forecast; however, in the August 2007 forecast, Hoku's  
17 forecast for 2013 was 40 aMW and 46 MW peak demand. In the  
18 August 2008 forecast, Hoku's average load and peak demand  
19 forecast nearly doubled from the August 2007 forecast and  
20 for 2013 was 77 aMW and 87 MW peak demand. Hoku's impact  
21 on the consecutive load forecasts is significant,  
22 representing approximately one and one-half years of  
23 typical Idaho Power system load and peak demand growth.

1 I have prepared Exhibit No. 17 which is a table  
2 showing how the Hoku forecast has changed over successive  
3 load forecasts. This table illustrates how the inclusion  
4 of Hoku energy sales (in aMW) and peak demand (MW) figures  
5 impacted the consecutive system forecasts. When the Hoku  
6 figures are subtracted from the sales forecasts, it is  
7 evident that each of the consecutive load forecasts is  
8 lower than the previous forecast (see Exhibit No. 18).

9 Exhibit No. 18 illustrates another point - that the  
10 August 2008 load forecast did incorporate a near-term  
11 recession. The load forecast that was prepared in August  
12 2008 forecasts that 2009 system electricity sales (in MWh),  
13 excluding Hoku, would only be 0.3 percent higher than 2008.

14 Q. You described the load impact of Hoku as a  
15 new customer. Are there other new customers that influence  
16 the forecast?

17 A. Generally speaking, new potential customers  
18 contact Idaho Power as part of a larger site location  
19 process, whereby many locations, including locations  
20 outside of the Idaho Power service territory are under  
21 consideration. This process can take many years and can be  
22 influenced by many intervening factors, including market  
23 conditions and operational requirements which are the  
24 drivers of microeconomic forecasting. Thus, while

1 representing significant potential load increase, it is  
2 uncertain load.

3           A key determinant for significant large-load  
4 customers is power availability and reliability. This is  
5 illustrated in Exhibit No. 19, which is a presentation made  
6 on September 10, 2008, by Mr. Don Dietrich, Director, Idaho  
7 Department of Commerce, to the Integrated Resource Planning  
8 ("IRP") Advisory Council. A key issue salient to economic  
9 development and power supply made by Mr. Dietrich was as  
10 follows:

11                   Adequate power is not always available  
12                   in the company's timelines.

13 The "company" referred to by Mr. Dietrich is a prospective  
14 new large load customer for Idaho Power. This "Catch-22"  
15 of power availability represents uncertainty not only to  
16 prospective customers but to Idaho Power forecasts of  
17 future load. The ironic nature of such a "Catch-22" is  
18 inherent in Ms. Mitchell's and Mr. Yankel's testimonies.  
19 Through the misapplication via a broad brush of macro-  
20 economic doom and gloom they have concluded that future  
21 growth is negative, yet, by constraining the obvious  
22 impacts of the microeconomic elements such as the need for  
23 adequate new power supply, their forecast becomes a self-

1 fulfilling prophecy by driving new customers to locations  
2 outside of southern Idaho.

3           Given the uncertainty of new power supply, Idaho  
4 Power forecasters have excluded over 700 MW of active new  
5 customers' potential load inquiries in its forecast.

6           Q.       Have all classes of Idaho Power customers  
7 experienced declines over the recent past?

8           A.       While most customer classes have declined in  
9 either customer growth and/or energy use, weather adjusted  
10 electricity sales to the irrigation class have surged over  
11 the last two years. I have prepared Exhibit No. 20 which  
12 presents the historical and weather-adjusted sales as well  
13 as the May 2009 forecast for 2009 irrigation sales. As can  
14 be seen from the table, sales for the 2009 forecast year  
15 are substantially lower than 2008 actual sales and may need  
16 to be revised considerably upwards.

17          Q.       Please respond to Ms. Mitchell's argument  
18 that recent economic conditions have worsened in the Idaho  
19 Power service area.

20          A.       I have no disagreement with Ms. Mitchell's  
21 short-term observations. But I believe that she needs to  
22 be careful in the manner in which she cites the types of  
23 statistics she uses in her testimony. Ms. Mitchell also  
24 makes some questionable assumptions for the economic

1 recovery of the Idaho Power service area and continued load  
2 growth therein.

3 Both Ms. Mitchell and Mr. Yankel use the April 2009  
4 DFM State of Idaho forecast as a proxy for economic  
5 conditions in the Idaho Power service area. This is not an  
6 "apples-to-apples" comparison. The significant majority of  
7 economic growth in Idaho over the last twenty years took  
8 place within the Idaho Power service area and, in  
9 particular, in the Boise Metropolitan Statistical Area  
10 ("MSA"). The DFM analysis is for the entire state, which  
11 includes many slow-growing rural areas outside the Idaho  
12 Power service area which have significantly different  
13 economic characteristics.

14 I have included Exhibit No. 21 which demonstrates  
15 this growth differential as well as various population  
16 statistics. It shows various geographic aggregations as  
17 well as population totals. Most importantly, it shows that  
18 the Boise MSA has doubled over the 1988-2008 time period  
19 and represents nearly 80 percent of the Idaho population  
20 growth for that period. This has resulted in very rapid  
21 load growth. Energy use for the Idaho Power service area  
22 averaged over 2.5 percent per year for the 1988-2008  
23 period, well above the national average of 1.8 percent per

1 year for energy for the same period according to the Energy  
2 Information Administration ("EIA").

3 Q. Does Idaho Power have an economic forecast  
4 comparable to the April 2009 DFM forecast cited in both Mr.  
5 Yankel's and Ms. Mitchell's testimonies?

6 A. Yes. Idaho Power contracted with Moody's in  
7 April 2009 to provide macroeconomic forecast data for Idaho  
8 counties as well as the two major MSAs in the Idaho Power  
9 service area - Boise and Pocatello. The Boise MSA is  
10 responsible for a significant portion of the population  
11 growth in the Idaho Power service area and, excluding the  
12 irrigation sector, represents 50 percent of the Company  
13 energy sales. I will therefore focus on the results of the  
14 May 2009 Moody's forecast for the Boise MSA and compare  
15 that to the assertions of a slow economic recovery made by  
16 Ms. Mitchell and Mr. Yankel.

17 Q. How does the Moody's forecast for the Boise  
18 MSA compare to Ms. Mitchell's claims of a very slow  
19 economic recovery?

20 A. Ms. Mitchell chooses her economic statistics  
21 very carefully to paint a very slow recovery for the Idaho  
22 Power service area economy. For example, she states on  
23 page 14 of her testimony that the construction sector is  
24 the "greatest contributor to Idaho's stagnant GSP (Gross

1 State Product)" without mentioning that this sector  
2 represents only 5-6 percent of the entire Idaho GSP in  
3 2007-08. She goes on to state that housing starts  
4 contribute to load growth without connecting the  
5 relationship between housing starts, housing stock,  
6 residential customers, households, and residential energy  
7 sales. Many of these housing starts during recent years  
8 became, in fact, unoccupied houses, which Idaho Power still  
9 counts as residential customers. Empty housing units  
10 generally use considerably less electricity than occupied  
11 ones.

12 As far as the forecast of housing starts, she states  
13 on page 12 of her testimony "the levels (of housing starts)  
14 recorded in 2006 are not expected to return by the end of  
15 2011." Besides my earlier comments on unoccupied housing  
16 units, the problem here is that she uses one of the years  
17 considered to be part of the "housing bubble," a year where  
18 the housing market was characterized by rampant speculation  
19 and over-building. I have attached Exhibit No. 22 that  
20 shows a graph of housing starts for the Boise MSA that  
21 clearly demonstrates the "housing bubble." It is unlikely  
22 that the Idaho Power service area will see a return to  
23 speculative building of large numbers of unoccupied housing  
24 units for quite some time. Yet the graph, based on the

1 Moody's forecast for the Boise MSA, shows a return to a  
2 robust level of residential customer growth similar to that  
3 which existed before the "bubble" years of this decade.

4 Q. Does this mean that there will not be  
5 increases in residential energy sales over the next few  
6 years because there will be many fewer housing starts?

7 A. Not necessarily. Idaho Power estimates that  
8 there are a substantial number of residential customer  
9 accounts which are actually unoccupied housing units with  
10 very little energy use. As a result, the weather-adjusted  
11 residential use per customer has declined recently.  
12 However, it is likely that residential energy use will  
13 increase over the near term even without new houses being  
14 built. Due to occupation by native and in-migration  
15 household growth, the present vacant housing units will  
16 shift from minimal maintenance level of use to occupied  
17 consumption levels and the average residential use per  
18 customer will increase. This will increase residential  
19 energy sales over the next few years without an equivalent  
20 increase in housing stock/starts, all of this the result of  
21 over-building from the housing bubble.

22 Q. What about the income per capita graph shown  
23 on page 13 of Ms. Mitchell's testimony that shows a rather  
24 flat economic recovery for Idaho?

1           A.       Once again, Ms. Mitchell uses a number for  
2 the entire state of Idaho as a proxy for the Idaho Power  
3 service area. A more representative number for the Idaho  
4 Power Service area would be the Moody's forecast of income  
5 per capita growth for the Boise MSA. My Exhibit No. 23  
6 shows the May 2009 Moody's forecast of income per capita  
7 for the Boise MSA and Idaho. The Moody's forecast for the  
8 state of Idaho shows a pattern similar to Ms. Mitchell's  
9 exhibit. However, the Boise MSA shows a robust recovery  
10 that significantly exceeds the state growth rate conveyed  
11 by Ms. Mitchell's exhibits (1.5 percent growth for the  
12 state of Idaho vs. 4.4 percent for the Boise MSA). I might  
13 also add that there is a noticeable difference between the  
14 level of income per capita for the Boise MSA versus the  
15 level for Idaho as a whole. If one were to remove the  
16 contribution of the higher Boise MSA income per capita to  
17 the state of Idaho numbers, the difference would be even  
18 more pronounced. Here I agree with Ms. Mitchell's  
19 testimony; energy use is clearly correlated with incomes  
20 and is something to be considered in load forecasts.

21           Q.       Are there other relevant economic variable  
22 comparisons from the recent Moody's forecast?

23           A.       Yes. Ms. Mitchell discusses the slow  
24 recovery from this recession to previous employment levels

1 as per the DFM forecast. On page 16 of her testimony, the  
2 graph shows Idaho employment in 2011 substantially below  
3 the levels of 2007. It is common knowledge that employment  
4 is a lagging indicator in the business cycle. Once again,  
5 there is a significant difference between the state of  
6 Idaho numbers and the Idaho Power service area. My Exhibit  
7 No. 24 shows the Moody's forecast of total non-agricultural  
8 employment for the Boise MSA. While there are certainly  
9 lingering effects on employment from this recession, the  
10 forecast for the Boise MSA once again is much more robust  
11 than that for the state of Idaho as per the DFM forecast.

12 A better indicator of economic recovery and  
13 associated growth in demand for energy would be the Gross  
14 Output measure or what is referred to as Gross State  
15 Product ("GSP") on page 14 of Ms. Mitchell's testimony. I  
16 have attached as Exhibit No. 25 a graph of the Moody's  
17 forecast of Gross Output for the Boise MSA. This  
18 demonstrates an earlier recovery to the current recession  
19 followed by a continuation of the growth trend prior to the  
20 current recession.

21 Q. Does the Moody's forecast fall within the  
22 reasonable consensus of economic forecasters?

23 A. Yes. In many ways the Moody's and the DFM  
24 forecasts for Idaho as a whole are very similar. Many

1 economists expect a recovery to begin in the latter half of  
2 2009. Moody's is not forecasting anything radically  
3 different for the state of Idaho compared to the DFM  
4 forecast. However, broad generalizations for the entire  
5 state can lead to faulty conclusions when looking at the  
6 Idaho Power service area economy.

7 Q. How do you respond to Ms. Mitchell's  
8 concerns regarding Idaho Power's winter peak?

9 A. It is my understanding that Idaho Power is  
10 capacity constrained in the summer and is not adding  
11 resources to meet winter peak. This is exemplified in the  
12 fact that in 2008, Idaho Power's all-time system winter  
13 peak was exactly 750 MW lower, roughly 25 percent, than its  
14 all-time summer peak. Idaho Power had a much more  
15 pronounced winter peak 20-30 years ago when a much larger  
16 share of the service area housing stock relied on electric  
17 space heating. In fact, Idaho Power had annual system  
18 peaks in the winter for both 1989 and 1993. With the  
19 increasing share of natural gas space heating and water  
20 heating in homes, it is doubtful that Idaho Power will  
21 experience a winter peaking problem in the future.

22 Q. Why will natural gas space heating continue  
23 to dominate the Idaho Power service area in the future?

1           A.           It appears that the predominance of gas  
2 space heating in the Idaho Power service area will continue  
3 for the foreseeable future. Given the significant  
4 additions to domestic natural gas reserves over the last  
5 few years, natural gas should maintain the cost advantage  
6 that it currently enjoys over electric space heating. When  
7 natural gas prices reached \$15/MMbtu in the forward gas  
8 markets in late 2005, many people assumed that this  
9 indicated "peak gas" and that these types of prices would  
10 continue into the indefinite future due to the lack of  
11 reserves. This now appears unlikely.

12           The Idaho Power service area cannot be compared to  
13 most utilities in the Pacific Northwest. Those utilities  
14 located west of the Cascades have a significantly different  
15 climate that results in winter peaks. These winter peaks  
16 are the result of high saturations of electric space  
17 heating and much less use of summer air conditioning.  
18 Since Idaho Power is not building capacity to satisfy  
19 winter peak and natural gas space heating is likely to  
20 dominate the Idaho Power service area for the foreseeable  
21 future, it is very likely that programs targeted at winter  
22 peak would not be cost-effective for Idaho Power.

23           Q.           Does this conclude your testimony?

24           A.           Yes it does.

**BEFORE THE**  
**IDAHO PUBLIC UTILITIES COMMISSION**

**CASE NO. IPC-E-09-03**

**IDAHO POWER COMPANY**

**MACE, DI REB**  
**TESTIMONY**

**EXHIBIT NO. 12**

**Michael William Mace**  
3416 Leland St  
Rocklin CA 95765  
(916) 624-4642  
[mwmace@att.net](mailto:mwmace@att.net)

**Education:**

1975 B.A. Economics, University of California, Berkeley  
1977 M.A. Economics, University of California, San Diego

**Professional Experience**

1977-1979 Economic Analyst, Pacific Gas & Electric, San Francisco, Ca  
Electricity and Natural Gas Forecasts, California Economic forecasts

1979-1986 Senior Economic Analyst, Idaho Power Company, Boise, Idaho  
Electricity and economic forecasts for Southern Idaho, consumer survey/market  
research, expert witness in avoided cost and rate regulation hearings

1981-1982 Adjunct Instructor in Economics – Boise State University

1986-1999 Senior Economist, Northern California Power Agency, Roseville, Ca  
Long term and operational electricity forecasts, demand side and conservation  
analysis, Super Efficient Refrigerator Program (SERP), customer marketing  
surveys, regional macroeconomic assessments, California electric deregulation  
policy evaluation

1999-2000 Market Monitoring Analyst , California ISO, Folsom, Ca  
Analysis of market participant bidding behavior, market power evaluations for the  
energy, capacity, and transmission markets

2000-2006 Senior Economist, Northern California Power Agency, Roseville, Ca  
Economic analysis of wholesale electricity and natural gas markets,  
recommendations for the buying/selling of long-term and short-term electricity  
and natural gas contracts. Analysis of regional power markets, macroeconomic  
conditions, and national/regional natural gas markets. Risk management.

2002-present Professor of Economics, Sierra College, Rocklin, Ca

February 2009 to Present: Consultant, Idaho Power Company

**BEFORE THE**  
**IDAHO PUBLIC UTILITIES COMMISSION**

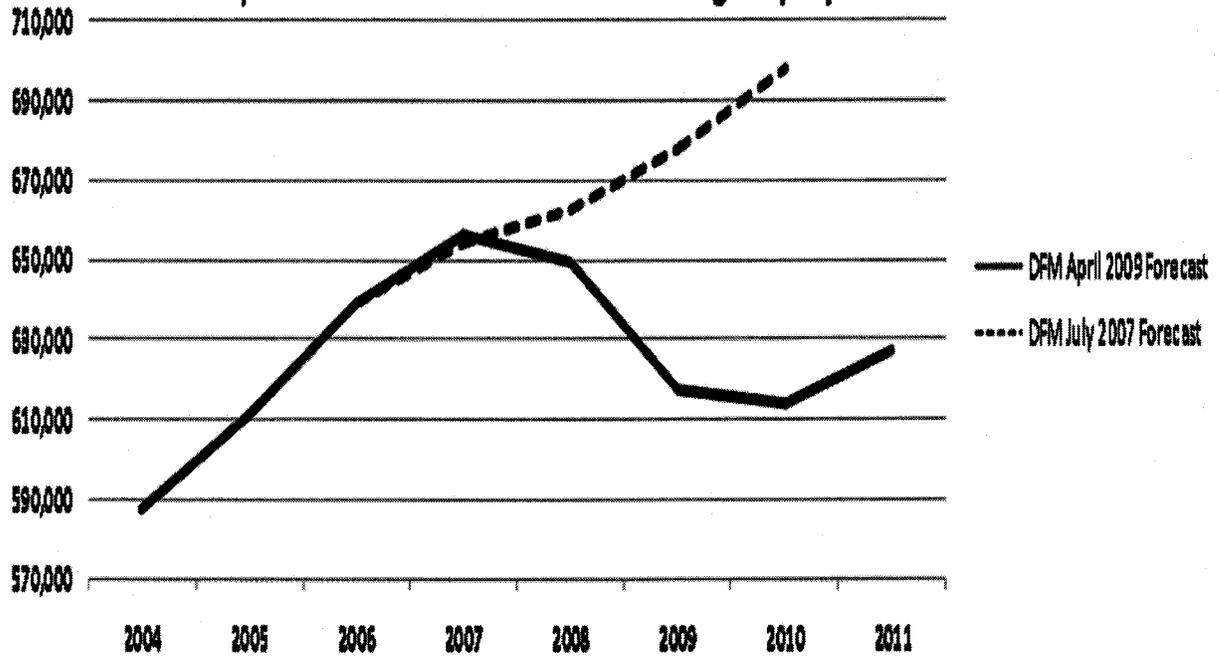
**CASE NO. IPC-E-09-03**

**IDAHO POWER COMPANY**

**MACE, DI REB**  
**TESTIMONY**

**EXHIBIT NO. 13**

### Comparison of Recent DFM Total Non-Ag Employment Forecasts



**BEFORE THE**  
**IDAHO PUBLIC UTILITIES COMMISSION**

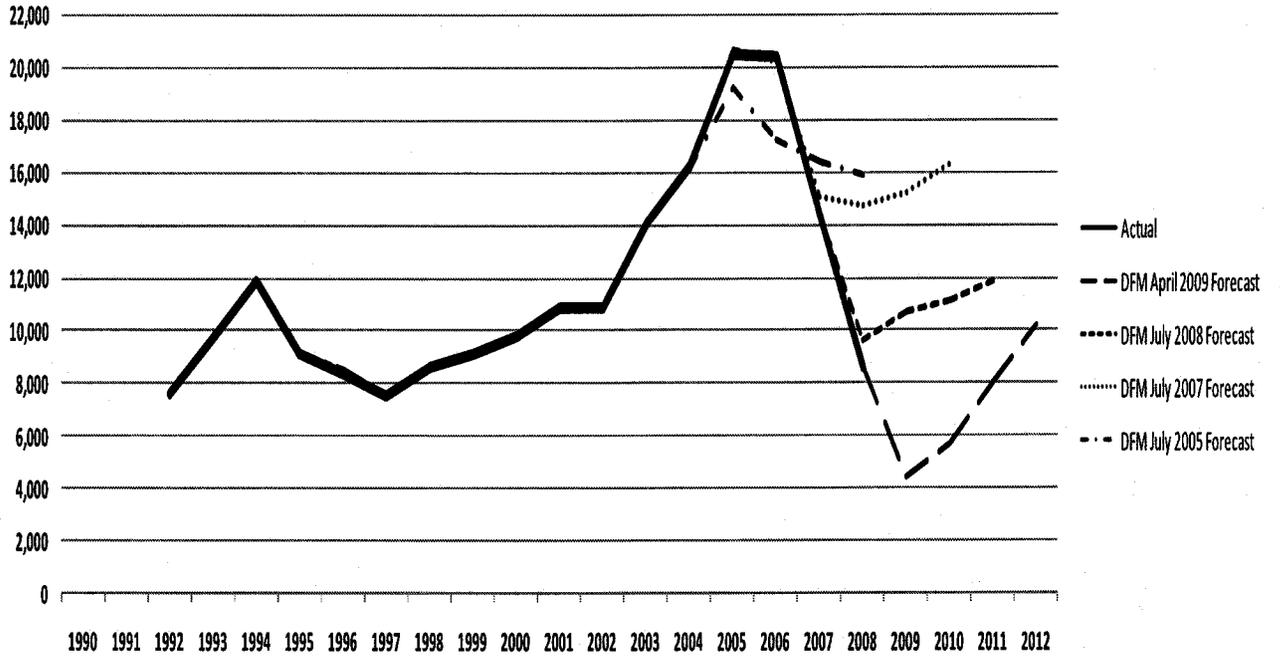
**CASE NO. IPC-E-09-03**

**IDAHO POWER COMPANY**

**MACE, DI REB**  
**TESTIMONY**

**EXHIBIT NO. 14**

# Idaho Housing Stock Additions - Various DFM Forecasts



**BEFORE THE**  
**IDAHO PUBLIC UTILITIES COMMISSION**

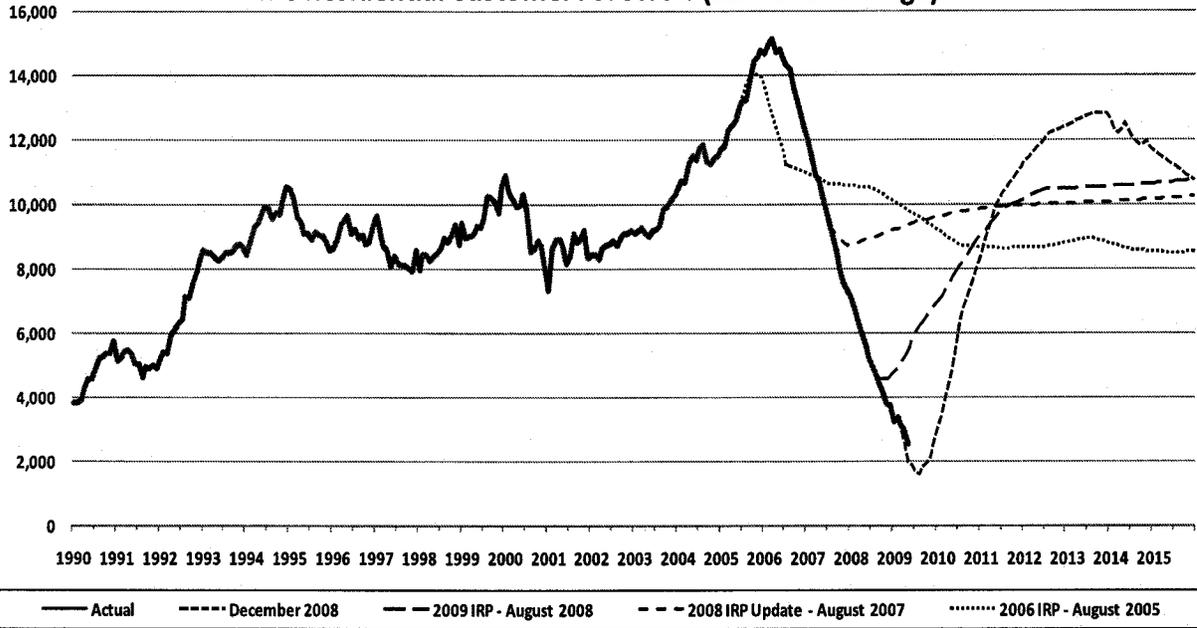
**CASE NO. IPC-E-09-03**

**IDAHO POWER COMPANY**

**MACE, DI REB**  
**TESTIMONY**

**EXHIBIT NO. 15**

### IPC Residential Customer Forecasts (12 month change)



**BEFORE THE**  
**IDAHO PUBLIC UTILITIES COMMISSION**

**CASE NO. IPC-E-09-03**

**IDAHO POWER COMPANY**

**MACE, DI REB**  
**TESTIMONY**

**EXHIBIT NO. 16**

<http://www.idahostatesman.com/eyepiece/story/790130.html>

June 03, 2009

## Will Idaho lead the nation's recession recovery?

***A growing population and high-tech work force could put the state first in line to improve, says an economic research company.***

**BY BILL ROBERTS - BROBERTS@IDAHOSTATESMAN.COM**

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***A growing population and high-tech work force could put the state first in line to improve, says an economic research company.***

Idaho could be one of five states to lead the country out of recession - not at a dead run, but more like a slow crawl.

But Idaho will likely see some tough times before things get better in 2010, said Addison Franz, an assistant economist for Moody's Economy.com, a company whose analysis predicts Idaho's leadership. The Pennsylvania company provides economic analysis, data, and forecasting and credit-risk services.

"The near-term outlook is relatively bleak this year," Franz told the Idaho Statesman.

Oregon, Washington, Colorado, Texas and Idaho will be the first states to turn the corner, Moody's forecasts.

The three Northwest states will cash in on population growth, which helped them boom in the early part of the decade. Those states and Colorado will also get a lift from a reviving high-tech industry, despite the loss of 6,000 jobs at Micron Technology in Boise in the past six years, Franz said.

Idaho's business-friendly climate - including low business costs - and state government's prudent handling of its recession-induced revenue declines will help contribute to the rebound, Franz said.

Moody's analysis makes sense, said John Church, a Boise economist.

"We've got a labor force ... trained in high-tech that might be a plus," he said. When the economy really starts to pick up at some point, Idaho is going to be one of the top five or 10 fastest-growing states in the country, he added.

Moody's logic also makes sense to Bob Lokken, chief executive officer of Whitecloud Analytics, a new software company in Boise. But he's skeptical in the wake of the battered economy.

"I don't know anybody who would try to make sense out of predicting anything after the last 24 months," Lokken said.

### **PEOPLE ARE THE KEY**

Idaho boomed in the years leading up to the recession. But even as the economy soured, people kept moving here. In 2008, Idaho was the sixth fastest-growing state in the country, according to the U.S. Census. Forecasts call for the state to exceed the national percentage increases for growth over the next three years.

Idaho has a young, professional labor force, Franz said. "It continues to grow," she said. "That tends to bring business."

Before the recession, investors were poised to keep putting money in Idaho. She believes they will again, once the economy improves.

### **HIGH TECH'S UP CYCLE**

As the recession eases, businesses across the country will begin to reinvest in their high-tech equipment, and that could mean good times for Idaho's tech sector.

The loss of manufacturing, including Micron's memory-chip production lines, won't stop the growth, which could come in high-tech research, Franz predicted. Each good-paying tech-research job can help create three additional local jobs, from grocery store clerks to florists.

As the tech sector revives, it will need other businesses, from graphic designers to law firms, to help. Those could be some of the first companies to see increases in business, Lokken said.

#### **ROUGH SPOTS FIRST**

Exhibit No \_\_\_

Idaho hit the recession like a truck speeding down the highway whose driver suddenly pulls the emergency brake.

A Moody's report from April said Boise's economy was contracting at an "alarming" pace. The report noted, "Payroll cuts are being made at almost double the U.S. rate."

Statewide unemployment could hit a 7.6 percent annualized rate in 2009 and 8.36 percent in 2010, Franz said.

But by 2010, the economy should start to show signs of improvement, even while the jobless numbers continue to rise, Moody's said.

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**EXHIBIT NO. 17**

## HOKU Impact on 2010 and 2013 System Load and System Peak Demand Forecasts

### 2010 Forecast 70th Percentile Average Load (aMW)

	Jan10	Feb10	Mar10	Apr10	May10	Jun10	Jul10	Aug10	Sep10	Oct10	Nov10	Dec10
2006 IRP Load Forecast	0	0	0	0	0	0	0	0	0	0	0	0
August 2007 Load Forecast	39	40	40	40	40	41	42	41	40	40	40	40
August 2008 Load Forecast	77	77	77	77	77	59	41	52	70	77	77	77

### 2010 Forecast 95th Percentile Peak (MW)

	Jan10	Feb10	Mar10	Apr10	May10	Jun10	Jul10	Aug10	Sep10	Oct10	Nov10	Dec10
2006 IRP Load Forecast	0	0	0	0	0	0	0	0	0	0	0	0
August 2007 Load Forecast	41	41	42	42	43	45	46	45	44	44	42	42
August 2008 Load Forecast	87	87	87	87	87	46	46	46	71	87	87	87

### 2013 Forecast 70th Percentile Average Load (aMW)

	Jan13	Feb13	Mar13	Apr13	May13	Jun13	Jul13	Aug13	Sep13	Oct13	Nov13	Dec13
2006 IRP Load Forecast	0	0	0	0	0	0	0	0	0	0	0	0
August 2007 Load Forecast	39	40	40	40	40	41	42	41	40	40	40	40
August 2008 Load Forecast	77	77	77	77	77	77	77	77	77	77	77	77

### 2010 Forecast 95th Percentile Peak (MW)

	Jan13	Feb13	Mar13	Apr13	May13	Jun13	Jul13	Aug13	Sep13	Oct13	Nov13	Dec13
2006 IRP Load Forecast	0	0	0	0	0	0	0	0	0	0	0	0
August 2007 Load Forecast	41	41	42	42	43	45	46	45	44	44	42	42
August 2008 Load Forecast	87	87	87	87	87	87	87	87	87	87	87	87

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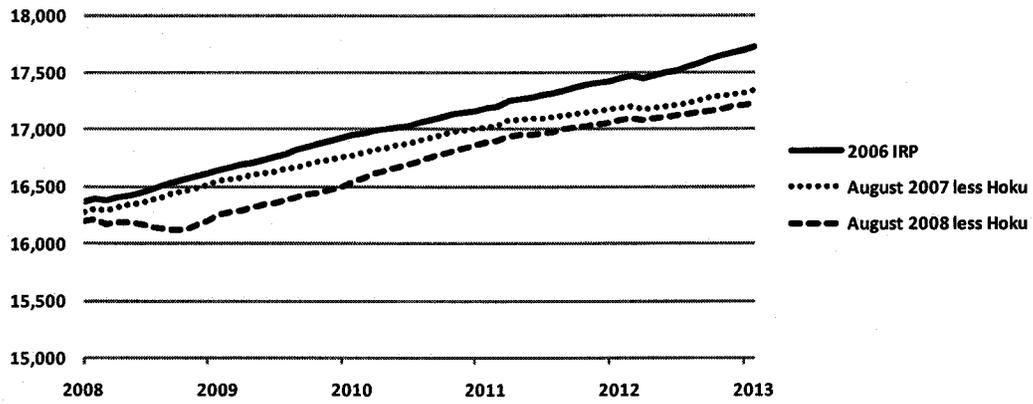
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**EXHIBIT NO. 18**

**System Sales Forecasts - 2006 IRP, August 2007, and August 2008 excluding HOKU Materials**  
(thousands of megawatthours)



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**EXHIBIT NO. 19**

# **Attracting Business to Idaho**

**Idaho Department of Commerce  
Donald A. Dietrich, Director**

## **Why Companies Move to Idaho**

- 1. Cost of doing business**
- 2. Location / Proximity to Markets**
- 3. Ease of doing business**
- 4. Incentives**
- 5. Quality of Life**
- 6. Available Land / Future Expansion**
- 7. Skilled Workforce**

## **Cost of Doing Business in Idaho**

- **Idaho ranks 46<sup>th</sup> in the Milken Institute's Cost of Business report for 2007 (5<sup>th</sup> lowest cost)**
  - For electricity, Idaho is ranked 50<sup>th</sup> (lowest cost)
  - For labor costs, Idaho is ranked 46<sup>th</sup> (5<sup>th</sup> lowest)
- **Idaho ranks 39<sup>th</sup> in the Moody's Business Cost Review 2005 (12<sup>th</sup> lowest)**
  - Once again, Idaho is ranked 50<sup>th</sup> for electricity
  - Idaho Power's contribution to the state's low costs is noted and appreciated

## **Business Attraction Catch-22**

- **Heavy power users appreciate Idaho's low power rates**
- **Companies with high power demands would benefit greatly from moving to Idaho**
- **Adequate power is not always available in the company's timelines**

## **Idaho's Incentives**

**Site Selector Magazine compared incentives that states offer in two areas**

- **18 Financial Assistance Incentives and 15 Tax Incentives**
  - Idaho offers only 5 of the Financial Assistance Incentives, along with 7-9 of the 10 western states
  - Idaho offers only 8 of the Tax Incentives, along with 6-10 of the 10 western states
- **Bottom line: Idaho competes on cost of doing business, not incentives**

## **Closed Projects**

- **30 closed projects in the past few years with great variance in power needs**
- **Idaho Commerce receives 2-6 inquiries per month from companies wanting to move or expand to Idaho**
- **Local economic development professionals also receive additional inquiries**

## Examples of Some Recently Closed Projects

Company	Type Business	Jobs	Cap Ex (millions)	Estimated Power
Areva	Nuclear enrichment	300	\$2.6 billion	32
Comtech AHA	hardware	50	\$1.0	47
Hoku Scientific	solar power	250	\$250.0	50
Refined Energy	Coal gasification	150	\$2 billion	100

The other 26 projects represent over 2,500 jobs and more than \$600 million dollars in capital expenditures

## Pending Projects

- Of the 22 pending projects:
  - 6 have power needs greater than 10 MW
  - 8 have power needs less than 10 MW
  - 8 have not provided power needs at this time

## Pending Projects

Projects Pending	Type Business	Jobs	Cap Ex (millions)	Estimated Power
Pine	Alt. Energy Mfg.	300	\$1,000	90
Apollo	Manufacturing	300	\$300	80
Wintergreen	Data Center	TBD	TBD	25
Compass	Data Center	50	\$70	25
Zap	Alt. Energy Mfg.	350	\$120	24
My Son	Alt. Energy Mfg.	1092	\$149	18

The other 16 companies represent more than 3,000 additional job for Idaho

## Thank You

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**EXHIBIT NO. 20**

## Actual and Weather-adjusted Irrigation Sales (MWh)

	Aug 2008/ Weather May 2009		Change in Change in Weather	
	Actual	Adjusted	Actual	Adjusted
<b>2006</b>	1,644,225	1,604,084		
<b>2007</b>	1,899,556	1,700,832	255,330	96,748
<b>2008</b>	1,921,608	1,842,808	22,052	141,976
<b>2009</b>			1,678,716	-164,092
<b>2010</b>			1,674,792	-3,924
<b>2011</b>			1,683,636	8,844
<b>2012</b>			1,685,694	2,059
<b>2013</b>			1,679,404	-6,291

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## Historical Population Growth Comparison - 1998 to 2008 ('000s)

Aggregates		1988	2008	Change	1988-2008	
Region					Pct Chng	
State of Idaho		986.630	1525.580	538.950	54.6%	
Total IPC Srv Area		600.957	977.141	376.184	62.6%	
Total: IPC Idaho Counties Only		572.086	942.973	370.887	64.8%	
Total: Non-IPC Idaho Counties		414.544	582.607	168.063	40.5%	

IPC Counties		1988	2008	Change	1988-2008		
Sub-Region	Counties				Pct Chng	Pct Share of IPC Growth	
Boise MSA	Ada	195.500	380.670	185.170	94.7%	50%	
	Adams	3.320	3.590	0.270	8.1%	0%	
Pocatello MSA	Bannock	60.802	75.143	14.341	23.6%	4%	
	Bingham	28.471	33.163	4.692	16.5%	1%	
	Blaine	12.660	22.020	9.360	73.9%	3%	
Boise MSA	Boise	3.165	7.384	4.219	133.3%	1%	
	Camas	0.683	1.039	0.356	52.1%	0%	
Boise MSA	Canyon	87.670	182.220	94.550	107.8%	25%	
	Cassia	2.128	2.297	0.169	7.9%	0%	
	Elmore	21.114	29.114	8.000	37.9%	2%	
Boise MSA	Gem	11.540	16.690	5.150	44.6%	1%	
	Gooding	11.680	14.440	2.760	23.6%	1%	
	Idaho	1.474	1.679	0.205	13.9%	0%	
	Jerome	15.010	20.370	5.360	35.7%	1%	
	Lemhi	6.634	7.517	0.883	13.3%	0%	
	Lincoln	3.350	4.550	1.200	35.8%	0%	
	Minidoka	1.962	1.901	-0.061	-3.1%	0%	
	Oneida	0.053	0.063	0.010	18.9%	0%	
	Boise MSA	Owyhee	8.430	10.990	2.560	30.4%	1%
		Payette	16.300	23.070	6.770	41.5%	2%
Pocatello MSA	Power	6.980	7.626	0.646	9.3%	0%	
	Twin Falls	53.380	74.160	20.780	38.9%	6%	
	Valley	5.725	8.554	2.829	49.4%	1%	
	Washington	4.248	5.093	0.845	19.9%	0%	
Oregon	Baker	2.998	3.210	0.212	7.1%	0%	
Oregon	Harney	0.213	0.198	-0.015	-7.0%	0%	
Oregon	Malheur	25.660	30.760	5.100	19.9%	1%	

Idaho MSAs		1988	2008	Change	1988-2008	
MSA					Pct Chng	Pct Share of IPC Growth
Boise MSA		297.875	586.964	289.089	97.1%	78%
Pocatello MSA		67.782	82.769	14.987	22.1%	4%

Source: Moody's May 2009 Forecast for Idaho & Idaho MSAs

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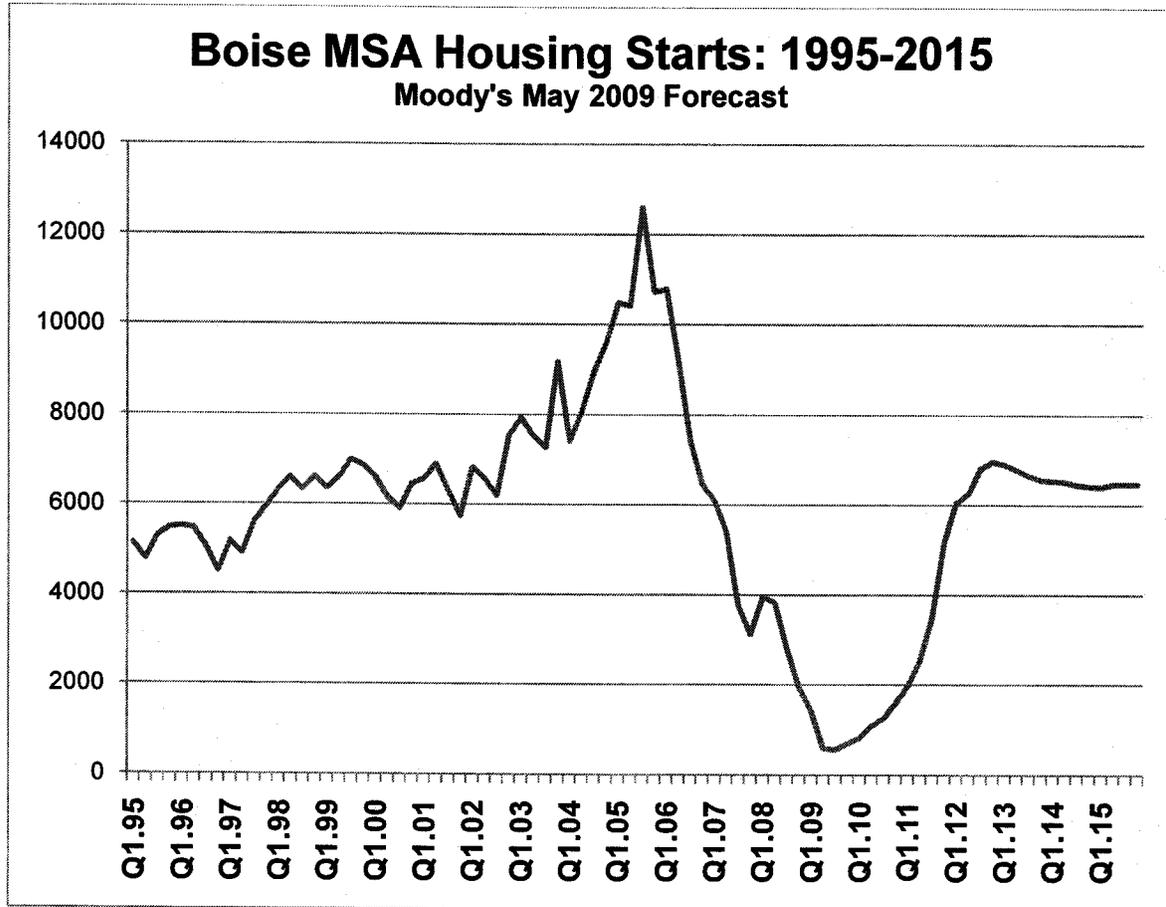
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**EXHIBIT NO. 22**

# Boise MSA Housing Starts: 1995-2015

Moody's May 2009 Forecast



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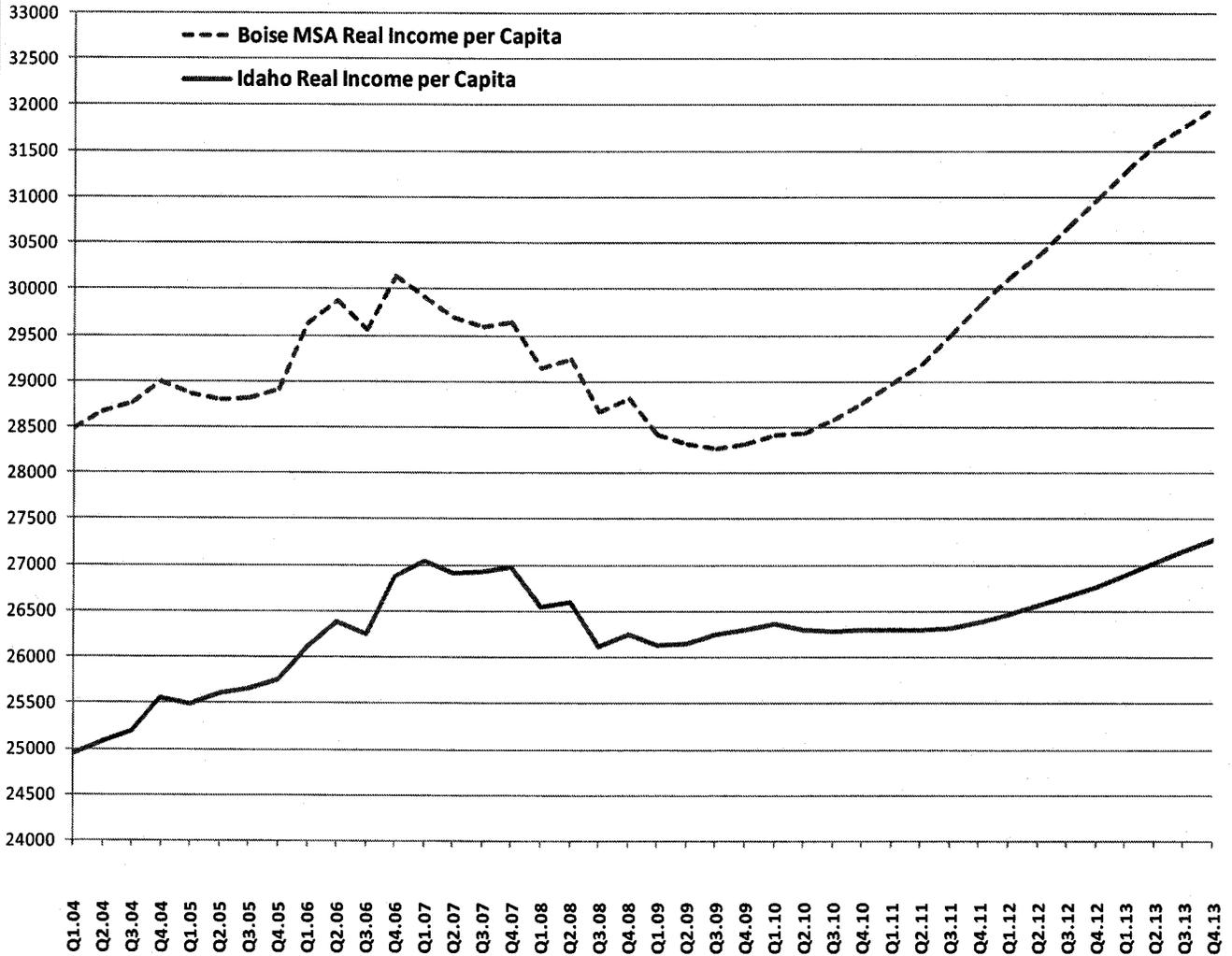
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**EXHIBIT NO. 23**

# Idaho and Boise MSA Real Income per Capita

Moody's May 2009 Forecast



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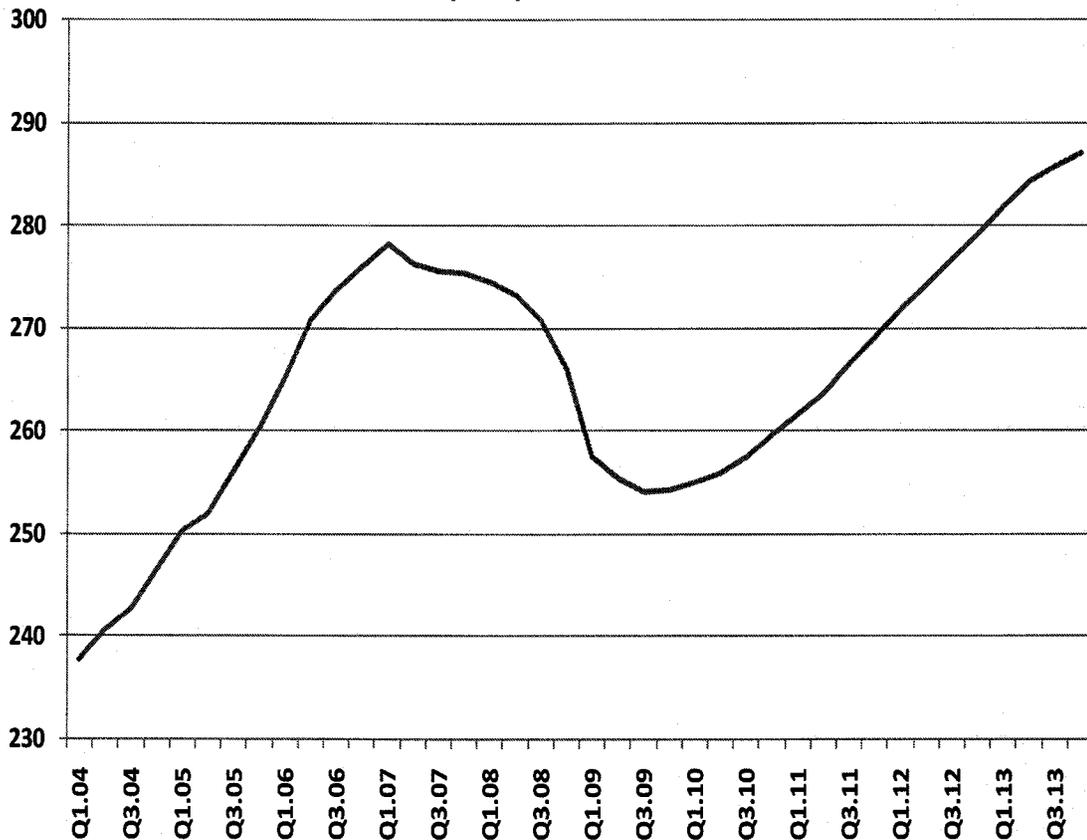
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**EXHIBIT NO. 24**

# Boise MSA Total Non-Ag Employment 2004-2013

Moody's May 2009 Forecast



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**EXHIBIT NO. 25**

# Real Gross Output - Boise MSA

Moody's May 2009 Forecast

