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MASTER

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RE: Contract DE-AC02-79CS20258 "Labor and Energy Impacts of Energy Conservation Measures."

1st QUARTERLY PROGRESS REPORT

Dear Mr. Miller:

Work has progressed along two lines: 1) obtaining of detailed occupation, industry, wage, and skill information, 2) obtaining of detailed materials and labor requirements (so-called direct requirements) for conservation and solar options. The latter is currently focused upon thermally tight single-family residences (vs. "as-built"). Both of these inputs will be used in conjunction with our input-output employment-energy model.

1. Detailed labor requirements (C. Green)

These must be obtained for all economic sectors since our approach calculates the indirect effects as well as the direct. Ideally we would like labor data sorted according to

- a. industry (90-order)
- b. occupation (at least 40 classifications)
- c. wage
- d. skill (education) level

and normalized according to the gross output of the sector. This implies a 4-dimensional data array. Much of the data is available from the latest census year, 1970, but we need to update, especially for wages. This updating seems possible, using these sources:

<u>DESCRIPTION</u>	<u>DATE</u>	<u>SOURCE</u>	<u>COMMENT</u>
1. Industry-occupation data	1972	Lawrence Berkeley Laboratory (LBL)	102 industries by 40 occupations; convertible to 90 x 40
2. Occupation-wage data	1978	Bureau of Labor Statistics tapes, Current Population Survey	In 19 ⁷³ 67 dollars. 470 x 1, convertible to 40 x 1

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Mr. Harold Miller

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<u>DESCRIPTION</u>	<u>DATE</u>	<u>SOURCE</u>	<u>COMMENT</u>
3. Occupation-skill (education)	1978	Bureau of Labor Statistics tapes, Current Population Survey	470 x 1, convertible to 40 x 1
4. Gross output data	1972	LBL	In 197 ⁶⁷ ₂ dollars, 97 x 1, convertible to 40 x 1

Industry-wage is available, but too broadly characterized to be useful.

2. Conservation and solar options: direct requirements (J. Nangle)

We are currently concentrating on a comparison of thermally tight new single family residences vs. ("as built"). This is one of our agreed-upon projects, as well as a useful model to introduce new staff to the entire approach. Extensive data are available from Battelle Northwest on the difference in materials and labor requirements (and in energy use), by climatic zone, for single family residences. In addition, we have the Oak Ridge National Laboratory projections of housing starts by region. Use of these data sources allows a calculation of the labor and energy impacts of realistic housing-start futures. This first calculation will be completed in several weeks.

Very truly yours,

Robert A. Herendeen
 ROBERT A. HERENDEEN
 Research Assistant Professor
 Principal Investigator

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