

IV. SIZING THE LABORATORY COMPLEX

A key area of discussion in recent years has been the overall size of the DOE laboratory complex. The Task Force on Alternative Futures for the DOE Laboratories, for example, stated that it believed that the National laboratory system is oversized for its current mission assignments, citing inefficiencies from current management practices, excess capacity associated with nuclear weapons design, and political considerations that have inhibited downsizing and reconfiguration.⁵

The Department is currently actively downsizing the laboratories by streamlining its management practices. In May 1995, as part of its Strategic Alignment Initiative, the Department set a goal of a 10 percent reduction in contractor employees at the Department's laboratories over a five year period. This would amount to a cut of approximately 5,900 employees from a fiscal year 1994 laboratory workforce base of approximately 59,000. Consistent with other elements of the Strategic Alignment Initiative, the objective is to eliminate unnecessary administrative functions while preserving direct research positions to the extent possible. As a result, the ratio of direct research staff to indirect administrative staff will increase over time.⁶ As of March 1996, the Department and its laboratories have identified approximately 6,500 laboratory positions that will be eliminated as a result of administrative cost-cutting efforts by the Department as well as programmatic cuts by Congress. These cuts are equivalent to closing a large laboratory. These efforts suggest that workforce levels at the Department's laboratories will be reduced by more than 10 percent by the year 2000.

Another part of the Strategic Alignment Initiative is reducing the size of the DOE Federal workforce, many of whom are involved in overseeing the laboratories. At the end of fiscal year 1995, the Department's personnel ceiling was 14,057 employees.⁷ This number will be reduced to 10,874 by the end of fiscal year 1998.

⁵ Secretary of Energy Advisory Board, Task Force on Alternative Futures for the Department of Energy Laboratories, *Alternative Futures for the Department of Energy National Laboratories*, Washington, Department of Energy, February 1995, p. 10.

⁶ These actions are consistent with President Clinton's directive "to achieve all possible savings [at Federal laboratories] through streamlining and management improvements before productive R&D programs are sacrificed." op. cit. Statement by the President, September 25, 1995.

⁷ This number excludes people employed by the Power Marketing Administrations and the Federal Energy Regulatory Commission.

With regard to concerns about excess capacity associated with nuclear weapons design, the Administration's decision to pursue a comprehensive Test Ban Treaty has reinforced the need for the weapons design labs. In the absence of testing, independent technical review and analytic capability becomes more important. President Clinton's statement of September 25, 1995 emphasized the importance of DOE's Science-Based Stockpile Stewardship program and concluded that "the vitality of all three DOE nuclear weapons laboratories will be essential."⁸

The size of the laboratory complex depends on the funding that Congress allocates to perform each of the Department's missions; the decisions that each of the Department's programs makes on how best to execute their mission among the laboratories, universities, and the private sector; and the extent of work that other agencies and the private sector organizations choose to support at that laboratory. If funding for the Department's missions shrinks, there are two general downsizing options: reducing the number of laboratories, or reducing the size of each laboratory.

By reducing the number of laboratories, it is possible, in principle, to eliminate the institutional costs of these laboratories. Closing a laboratory also dramatically demonstrates seriousness about cutting costs. Because the laboratories represent substantial investment in scientific equipment and human capital that is difficult to rebuild, however, closing a laboratory is a largely irreversible step that precludes rebuilding the capability should national needs change. It is also often resisted by Congressional delegations and local stakeholders. And many of the cost-savings may be illusory, especially since there may be continuing Federal responsibilities to decommission facilities or remediate environmental degradation. Moreover, it is not clear that it is more cost-effective to conduct the same level of programmatic activity at a smaller number of large laboratories than at a larger number of medium sized laboratories. For these reasons, President Clinton stated "While it would be easy to destroy premier Federal laboratories through severe budget cuts or senseless closures, that is not a path this Administration will follow."⁹

Downsizing in place has the advantage of being reversible and easier (although not painless) politically. When done through reengineering, it is possible to cut selectively the size of the administrative staff while preserving the technical work. Downsizing in place also occurs naturally as funding for

⁸ Statement by the President, Future of Major Federal Laboratories, Office of the Press Secretary, September 25, 1995; this directive was among those announced in response to the Interagency Federal Laboratory Review, Office of Science and Technology Policy, May 15, 1995.

⁹ Ibid

programs shrinks. If funding for DOE programs shrinks, the programs are likely to consolidate activities at a smaller number of laboratories to ensure that a critical mass of competence is preserved to sustain world-class performance in those areas. This would result in some multiprogram laboratories serving fewer programs. As laboratories fall below a critical mass, become less cost-effective performers of R&D, or clearly have a poor long-term funding prospects, they become candidates for closure. In this regard, the Department is examining many of its smaller laboratories to determine if they are candidates for closure, privatization, or alternative contracting mechanisms.

Although the short-term forecast is for increasingly tight DOE budgets, the long-term picture suggests that the Nation's overall (public and private) support for science and technology will remain steady, if not actually grow. The Nation's economy is expected to grow, as is the technological intensity of the economy, as measured by R&D as a percentage of gross domestic product. There will likely continue to be a need for publicly supported R&D and scientific user facilities to meet national needs, particularly if long-term industrial R&D remains under pressure. The size of the Department's laboratories 5, 10, or 15 years from now will depend to a considerable extent on whether these institutions are cost-effective performers of R&D in the public interest.