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The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Subject: Science Advisory Board Comments on the President's Requested FY 2011
Research Budget

Dear Administrator Jackson:

In recent years, the Science Advisory Board has conducted two parallel sets of discussions on research with the Office of Research and Development (ORD): ongoing discussion of strategic research directions and reviews of the President's research budget requests for upcoming fiscal years. The SAB has now reviewed the President's FY 2011 research budget request within the context of these ongoing interactions with ORD on strategic research directions and assessed how well the requested budget will permit EPA to advance the goals set in its strategic research planning. Progress toward these goals will provide the science underpinnings for meeting your environmental protection priorities. The SAB plans to continue its discussions of strategic issues with ORD at an advisory meeting planned for April 2010, and we will provide you with an advisory letter on strategic research directions after that meeting.

The SAB is pleased to note that the President's budget request shows a modest increase in nominal dollars and a slight increase in constant dollars for ORD for FY 2011, as compared with ORD's FY 2010 enacted budget. We believe that the budget request overall, with just a few exceptions, reflects appropriate choices about investments and disinvestments in research. Given budget constraints across the federal government, we commend EPA for a budget request that supports science as the foundation for EPA decision-making and research as a resource addressing likely future environmental needs and issues.

Among the research investment choices, the SAB highlights as appropriate the planned increase for STAR grants and fellowships (+\$25.8 M). The STAR fellowships invest in the next generation of environmental scientists and STAR grants facilitate EPA's interaction with the wider scientific community and leverage expertise on key emerging issues. The SAB highlights increases in air quality research as a "down payment" to develop and maintain a next generation monitoring network for ambient air pollutants (+\$3.4 M), an important and appropriate early step in research towards a multi-pollutant approach to air quality management. The investment in hydraulic fracturing research (\$3.5 M) is urgently needed to study the impact of these technologies on the sustainability of some clean energy options and on ground water quality protection. It is encouraging that while the actual increase is small, it represents a doubling of the budget. The SAB recommends that EPA pursue additional resources in the next budget cycle to ensure that this program becomes as robust as it needs to be. The investment in green water infrastructure research (+\$6.0 M) is needed to address green infrastructure practices relating to storm water management, water quality, and water quantity issues at multiple scales, including

1 large watershed scales, although the SAB would like the program expanded to give attention to
2 agricultural, as well as urban, water quality issues. Finally, we view the planned investments in
3 endocrine disruptors (+\$6.0 M) and computational toxicology (+\$1.8 M) as important for
4 strengthening human health and ecological risk assessment. Along with these highlighted
5 investments, the budget request overall generally reflects appropriate choices about sustaining
6 programs and disinvesting in others (such as the mercury research program), where research
7 projects have reached a natural decision or ending point.
8

9 The SAB had four areas of concern in reviewing the FY 2011 research budget request in
10 light of the Agency's strategic research needs. We draw your attention to the following issues
11 that deserve special notice:
12

13 The SAB believes that the relatively modest increase for ORD proposed for the clean air
14 (+\$3.4 M) and global change (+\$1.2 M) research programs is not sufficient even though the
15 President's budget request provides Science and Technology (S&T) Funds for EPA's Office of
16 Air and Radiation to address climate change science and research,. While the U.S. Global
17 Change Research Program has historically complemented and leveraged EPA's past limited
18 research investments in climate change, EPA will have a substantial need for new knowledge to
19 support regulatory strategies, as a result of the Agency's Endangerment Finding on greenhouse
20 gases. The types and number of scientific activities will increase to support EPA's central,
21 critical role.
22

23 The requested budget for the Ecological Services Research Program shows a significant
24 reduction in FTE (-13.9 FTE) as well as a reduction in funding (-\$1.5 M). The SAB has
25 consistently noted that "The considerable potential of the program is unlikely to be achieved with
26 its current level of funding and staff" (see SAB Report, *Consultation on EPA's Implementation*
27 *of the Ecosystem Services Research Program*, EPA-SAB-09-019). The success of the Ecological
28 Services Research Program depends on sustaining the work of EPA's highly trained scientists.
29 The planned FY 2011 FTE cuts for a research area modestly funded at the outset are so
30 significant as to threaten the future of the entire program. This program is critical for
31 understanding the ways in which policy and management choices affect the type, quality, and
32 magnitude of the goods and services ecosystems provide to sustain human well-being.
33

34 Although environmental justice is identified as a priority, the SAB notes that ORD's
35 requested budget does not provide a broad capability for developing the science to support
36 environmental justice programs and policies and, in addition, indicates a planned reduction in
37 funding for cumulative risk research (-\$5.4 M) as a separate line item, as well as reductions as
38 well in cumulative risk research related to endocrine disruptors (-\$0.3 M) and characterizing
39 drinking water risk (-5.4 FTEs). Although the budget shows a planned increase in funding for
40 the child health stressor study and ORD staff can point to planned activities involving cumulative
41 risk, the budget does not demonstrate an investment in this important area consistent with your
42 emphasis on environmental justice and the call for increased attention to multi-chemical analysis
43 by the National Research Council (*Science and Decisions*, 2009).
44

45 The SAB has repeatedly noted the serious lack of Agency research activity and staff
46 expertise in the area of social, behavioral, and decision sciences. The President's FY 2011

1 budget again this year does not include investment in these areas. The SAB believes that EPA
2 must invest in research in these areas to help fashion solutions to environmental problems.
3 Effective design and implementation of policies and programs and effective communication of
4 them require an understanding of human perceptions, values, and behavior. ORD requires a
5 sufficient intramural cadre of behavioral, social, and decision scientists to provide this
6 understanding, to conduct relevant social science research, and to guide the Agency in forming
7 appropriate partnerships and collaborations in this area. The SAB welcomes additional dialogue
8 with the Agency on this issue.
9

10 The SAB is pleased to have again reviewed the EPA research budget and looks forward
11 to working with you to strengthen the Agency's vital research base. We look forward to your
12 response to this review and to continuing our interactions with EPA to develop future advice on
13 the Agency's science program.
14

15 Sincerely,
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17
18 Dr. Deborah L. Swackhamer
19 Chair
20 Science Advisory Board
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