

Departmental Response:

Assessment of the Report of the SEAB Task Force on National Laboratories



Introduction

The Department of Energy (DOE) and its network of national laboratories (labs) are responsible for advancing the national, economic, energy, and nuclear security of the U.S.; promoting innovative and transformative scientific and technological solutions in support of those missions; sponsoring basic research in the physical sciences; and ensuring environmental cleanup of the nation's nuclear weapons complex. To tackle large-scale challenges and opportunities, DOE designed the national labs as trusted partners, managed and operated in the public interest by university and industry scientist leaders. The Federal Government develops research and development programs for the labs by, setting goals and allocating resources. The national labs provide the expert people, facilities, and management systems to carry out those programs. The national laboratory system is a vital national asset. However, over the years, questions have been raised about the management and performance of this system and the relationship between DOE and its laboratories. Congress and others have commissioned many studies analyzing the purpose, organization, performance, and cost of the DOE national laboratory system.

SEAB Report of the Task Force on National Laboratories

In June 2014, Energy Secretary Ernest Moniz charged the Secretary of Energy Advisory Board (SEAB) to provide advice, guidance, and recommendations on important issues related to improving the health and management of the labs. SEAB formed a task force to review past studies, Congressional reports and direction, and Departmental deliberations to identify key areas that have been raised concerning laboratory management and operations and select a few specific issues for study in areas where the Secretary of Energy has the authority to make changes that will improve laboratory performance and efficiency. The Secretary also requested the task force to remain informed about the deliberations of several studies underway on the DOE laboratories and provide views on the findings and recommendations of these studies and the actions that the Department should take to implement such recommendations.

On June 17, 2015, the SEAB approved the Interim Report of the Task Force.

DOE Assessment and Response to Recommendations

The interim report of the Secretary of Energy Advisory Board (SEAB) National Laboratory Task Force identifies the constraints on and evaluates the effectiveness of laboratory operations that impact the performance and efficiency of the DOE national laboratories and proposes a series of new mechanisms and procedures to enhance the performance of the DOE national laboratory system through targeted “experiments” in three key areas: (1) the management and operation (M&O) contracting system; (2) technology transfer as a means for creating value for the private sector; and (3) Laboratory Directed Research and Development (LDRD).

This brief assessment provides DOE’s initial response to the report’s recommendations.

Framework

Recommendation 1.1: Clarify the roles and responsibilities for mission execution at the laboratories. The Secretary of Energy should lead the Laboratory Policy Council in clarifying roles and responsibilities and direct the Under Secretary for Management and Performance to lead the Laboratory Operations Board in implementing these changes.

Response: DOE is taking steps to clarify the roles and responsibilities of the headquarters, program, field, and laboratory organizations. In general, program management responsibility and strategic direction reside at DOE Headquarters, whereas field offices provide day-to-day implementation and are advocates for mission work at the site. As part of this effort, each DOE program will review its field authorities and structure and formalize a field manager training and professional development program that provides for effective workforce planning and instills an understanding of “mission support” as the primary site office role.

NNSA, in particular, will execute plans to improve its governance and oversight of field operations at its laboratories, sites, and plants, and clarify roles and responsibilities. This approach will clarify the oversight roles of headquarters and field office personnel, placing emphasis on new rigorous and dependable Contractor Assurance Systems (CAS) and leveraging best practices from the Office of Science, including enhancing peer review and corporate parent involvement as appropriate for each site. In addition, to manage and eliminate duplication in field oversight, NNSA’s field offices will use a Site Integrated Assessment Plan (SIAP) to identify their annual oversight requirements.

With respect to the oversight environment, CAS will continue to serve as a system for the contractor to manage performance consistent with contract requirements. A working group led by the Laboratory Operations Board has been reviewing how the various offices operate CAS at the laboratories under their purview and is developing a Departmental Policy document to articulate high-level CAS principles, to help further more uniform application across the complex. NNSA also is in the process of updating its CAS process to more closely mirror the Office of Science model.

In addition, core elements of the DOE/Lab relationship will be articulated in the forthcoming inaugural Annual State of the Labs report to Congress.

Recommendation 1.2: The Under Secretary for Management and Performance should lead a process to establish a structure and process that replicates the Office of Science (SC) Office of Laboratory Policy for the National Nuclear Security Administration (NNSA) and the Energy laboratories.

Response: The Department recognizes the need raised by SEAB for rigorous, comprehensive planning across DOE, including with individual laboratories. The Secretary has initiated efforts to bring more consistency to the management and oversight of the DOE laboratories. These efforts are being implemented through the line structure.

DOE has already begun to make improvements and develop a consistent annual laboratory planning approach to track and assess laboratory planning and evaluation. In this effort, DOE has established a Laboratory Planning Working Group, convened by the Under Secretary for Science and Energy, with participation from NNSA and the Office of Environmental Management, to share lessons and ideas for implementing consistent laboratory planning processes. Both NNSA and the applied energy offices are incorporating core elements from the Office of Science's lab planning process.

Specifically, NNSA is working to improve its strategic planning process and partnership efforts by establishing a laboratory strategic planning function in the NNSA Office of Policy within the Office of the Administrator. NNSA will work with each of the Lab Directors and NNSA field office managers to establish this new process, which will include an annual high-level strategic discussion at which each Laboratory Director presents his/her long-term strategic vision, to include the complex factors and competing objectives that each national laboratory balances, while continuing to assure national security mission success. The discussion will also include longer-term issues that the Director considers vital to the mission success of the laboratory.

The Office of the Under Secretary for Science and Energy has developed coordinated and uniform guidance for the Science and applied energy program national labs to submit an Annual Laboratory Plan (ALP). The guidance builds off of the Science process and provides for an enhanced focus on the applied energy programs, technology transitions, and collaborations. The guidance and schedule will parallel that previously used in the Office of Science, and builds upon the original set of core capabilities to integrate those applicable to the applied energy programs. The written plans will be due in the spring and presented by the lab leadership to not only their respective stewarding programs – Fossil Energy (FE), Nuclear Energy (NE), Energy Efficiency and Renewable Energy (EERE), and Science (SC) – but also to the leadership of the other stewarding offices, as well as the Office of Under Secretary for Science and Energy and its programs, the Office of Electricity Delivery and Energy Reliability (OE), NNSA, the Office of Environmental Management (EM), the Office of Indian Energy (IE), and the Office of Technology Transitions (OTT). The FY 2016 ALPs will inform the FY 2017 Performance Evaluation and Measurement Plans (PEMP), infrastructure plans, and 10-Year Site Plans, and the FY 2018 budget request. The annual laboratory plans will also inform the activities of the Office of the Under Secretary for Science and Energy initiatives such as the tech teams, the National Laboratories' Big Ideas Summit, the resulting crosscut proposals, and the budget request.

The Office of Environmental Management (EM) will establish an entity that is responsible for the stewardship of the Savannah River National Laboratory. This entity within EM will manage

the Department's process for annual laboratory planning and evaluation, and will serve as a focal point for other key laboratory stewardship activities such as Strategic Partnership Projects (SPP) and LDRD. EM may directly implement (i.e., participate in) the laboratory planning and evaluation process described above for the Under Secretary for Science and Energy.

Finally, a Laboratory Performance Management Working Group was chartered in 2014 by the Under Secretary for Science and Energy to better align the processes used by the program offices to annually evaluate the laboratories' performance, using the Office of Science process as a model. This group developed several recommendations that are being implemented by DOE, through the Under Secretaries, in FY 2016. The recommendations provide for: consistent annual laboratory performance plans across all laboratories with common hierarchy; standard nomenclature and definitions of terms; the identification and evaluation of a laboratory's leadership role in cross-cutting initiatives with inter-laboratory collaboration (e.g., Grid Modernization); and performance feedback from all major sponsors (both DOE and non-DOE) of work at a laboratory. Each Under Secretary will merge this effort with the laboratory planning activities to enhance the annual laboratory planning approach and will ensure both efforts are institutionalized for FY 2016 and beyond.

Management and Operations

Recommendation 2.1: The SC Director should complete, expeditiously, the study currently underway to evaluate options for changes to the contracting model.

Response: The Department agrees with this recommendation. The Office of Science study of contract modifications at a single program lab is complete and has resulted in 18 concrete actions. While the study initially looked at actions to affect only one lab, the Working Group consensus was that many of the final recommendations could be applicable across the DOE enterprise. As a result, six contract experiments are proposed, including four of the five most commonly reported issues, and 12 actions will be more widely applied across the enterprise. The working group recommended that Fermi National Lab conduct the experiment beginning spring 2016.

Recommendation 2.2: The Under Secretary for Management and Performance should authorize a number of experiments to move control authority for certain operational procedures to the laboratory management. Specific recommendations:

2.2.1 Compensation Management: The current compensation approval process is eight times longer than industry norms, and requires excessive data submission. After parameters are received from DOE in late July, laboratories must conduct market surveys and analyses and review affordability, which takes up to one month. This is followed by a white paper presentation and DOE review and approval, which can take a minimum of five weeks. Finally, M&O contractor

review and approval takes one week. In total, the current review process can take ten weeks or more, and its variability impacts the laboratories' ability to effectively plan for compensation reviews.

The Task Force recommends an experiment in which intent and constraints are discussed and agreed upon with the DOE during the first week, and DOE review and approval time is reduced to one week. This will limit the compensation process timeline to six weeks, while still ensuring that total compensation meets DOE strategic intent and constraints.

Response: DOE agrees that the Compensation Increase Plan (CIP) approval process needs improvement and has taken action by issuing Departmental policy on January 15, 2016 that requires Contracting Officers to modify existing contracts to significantly streamline DOE's existing oversight process. To accelerate the process, DOE has established pre-authorized thresholds. Specifically, in the absence of Departmental policy to the contrary (e.g., Secretarial pay freeze), contractors will not be required to submit CIP approval packages for merit fund increases that do not exceed World at Work projections nor will they be required to submit packages for promotion/adjustments that do not exceed thresholds established by Program Offices. In these instances, contractors will notify the Contracting Officer that they will not exceed established thresholds and will provide summary level information on their increases. No subsequent approval will be needed. Contractors proposing to exceed the pre-authorized amounts will submit a proposal with supporting documentation as required by the Program Office for Contracting Officer (CO) approval. The CO will issue a decision within four weeks, which will reduce the current response time cited by SEAB by nearly half.

2.2.2 Labor Negotiations: Currently, the process for labor negotiations is structured around approval parameters for bargaining on discrete elements (e.g., general wages and benefits). These parameters are determined through market surveys and analyses, as well as affordability reviews that are submitted to DOE for approval. Obtaining detailed point-by-point parameters from DOE can take months.

The Task Force recommends an experiment in which the process shifts to a "not-to-exceed total compensation" budget. The strategic intent and constraints would be discussed and agreed upon with DOE, so that DOE can provide authorization for a total cost ceiling. Such a change would ensure system-level controls are in place, while allowing the laboratories to decrease strike probability, improve the alignment of the contracts and broader strategic intent, and reduce bargaining costs. This process should be limited to a six-week timeframe (not including negotiating time).

Response: DOE will revise the model H-Clause, "Labor Relations," to clarify that specific, advance approval will not be required unless (1) the contractor-proposed parameters exceed a specified aggregate ("NTE") amount or exceed separate NTE amounts identified for specified categories of wages, salaries and benefits, (2) working conditions have not been normalized to

current industry standards, or (3) the changes are contrary to Departmental policy or written instructions. Advance written notification to the Contracting Office is required for all changes for which approval is not required. In so doing, DOE can streamline the approval process and ensure Contractors have appropriate flexibility in the course of negotiations, while ensuring that DOE manages in compliance with DEAR 970.2201-1, “Basic Labor Policies”, which charges DOE with assuring the “judicious expenditure of public funds” through reviewing the alignment of wages, salaries and benefits with private industry and institutions of higher education.

2.2.3 Benefits: Currently, DOE utilizes individual reviews for lower-risk laboratory transactions, which is time consuming and can be a net drain on resources. The Task Force proposes that DOE authorize laboratories to manage benefits below a preset cost threshold. The proposed process will provide the laboratories with improved agility and increase focus on the overall total rewards design while maintaining market-reference and affordability. This process will reduce review and approval time by DOE from a one-month minimum to one week. After a period of 12 months, the program should be reviewed to determine its efficacy at containing benefits costs while still achieving competitive benefits levels and reduced transaction costs.

Response: DOE agrees that the current process should be streamlined. DOE’s Departmental Policy issued on January 15, 2016 revised its process to eliminate prior approval of new or revised benefit plan changes with the exception of changes that result in increased costs or that are contrary to Departmental policy or written instructions. Laboratories will be required to submit advance written notification with summary level data to the Contracting Officer for all proposed changes that are not required to be submitted for approval. As a result, contractors should save time in preparing approval packages for lower-risk benefits and the cost of coordinating with their Benefit Value consultant on each change to obtain an impact assessment on the Benefit Value index.

2.2.4 Annual Pension Funding: The current pension contribution process inhibits laboratories from making pension contributions utilizing a risk-based approach. The current process operates under existing constraints and peer-determined caps. Any pension contributions in excess of the actuarially determined Minimum Required Contribution must be submitted to DOE for approval. This process can take two to three months. In addition, the timing of DOE approval could result in mid-year changes to labor rates.

As an experiment, laboratories should discuss and agree on the strategic intent and constraints with DOE in advance of defining an annual pension management plan. The proposed process could help enable long-term strategic pension management and ensure pension plans meet agreed DOE minimum long-term strategic standards.

Response: DOE agrees that the timing of its process for reviewing pension funding plans should be addressed. DOE’s January 15, 2016 Departmental Policy changed its process so that contractors anticipating the need for pension funding above the Minimum Required Contribution may submit a request to DOE in the form of a business case (2-3 pages) justifying the additional funds, ideally

at the beginning of the fiscal year. DOE has issued guidance requiring programs to provide contractors pre-approval, if appropriate, within 30 days of receipt of the business case to allow contractors to determine labor rates. Final approval of funding would be communicated by the HCA when discount rates are finalized and it is known whether there are any budget issues with the proposed contribution amount. The Contractor would still participate in the Pension Management Plan process.

2.2.5 Conference Management Approvals: The current process for conference participation approval creates lengthy delays and barriers. Conference expenses expected to exceed \$ 100K across all laboratories are routed through DOE for approval, which can take weeks or months. Once approval is secured, laboratories inform conference attendees of whether they are authorized to attend the conference, long after their names are submitted to the conference approval system.

This process hurts morale and hinders the ability of laboratory staff to network with their peers and build their knowledge base. It also increases the costs as later approvals result in higher conference attendance fees (missed early registration pricing) and higher travel costs.

Instead the Task Force proposes piloting a new arrangement for two years in which laboratories and DOE agree to an annual ceiling for conference attendance and spending, and then allow the laboratory to make its own decisions on attendance on a conference by conference.

Response: The Secretary recently approved a significant change to the conference management process that will reduce the workload and approval time for conferences. The most recent guidance eliminates the requirement for DOE contractors to report and seek approval from DOE headquarters for non-DOE/contractor-sponsored conferences. Contractors will still report and seek approval for estimated conference expenses for DOE and contractor-sponsored conferences (when contractor-sponsored conferences exceed \$100,000 in costs), but with less detail than the current system requires. The Department is modifying laboratory contracts to include an H-clause that requires laboratories to locally track conference expenses and requires the laboratory director to approve participation in non-DOE/contractor conferences where expenses exceed \$100,000.

2.2.6 Outside Legal Counsel: The current process for engaging outside legal counsel requires substantial resources to negotiate low-risk items without commensurate value. Approval process variability can result in increased supplier payments and limit the number of suppliers willing to provide counsel to the laboratories.

The Task Force recommends directing field offices to streamline billing and for laboratories to provide annual billing submission to DOE, based on agreed upon strategic intent constraints with DOE. By eliminating the current process of field office reviews and Q&A interactions with the laboratories to secure approval, the process can be shortened by up to two months. The future process would support Title 10 of the Code of Federal Regulations (CFR) Part 719 requirements while implementing a streamlined, risk-based approach.

Response: DOE engaged in a notice-and-comment rulemaking in 2011-2013, which included consideration of comments from many DOE M&O contractors, and resulted in the publication of a revised regulation governing contractor legal management requirements for the retention of outside counsel by contractors. The revised regulation was effective July 2, 2013, and was designed to provide effective monitoring and control of legal costs through a workable process. The Department is willing to engage further with the labs to understand and consider any specific proposed changes to streamline the approval process, or to address any potential inconsistencies that are causing issues at particular sites, consistent with the Department's oversight responsibilities with respect to contractor litigation and legal costs. One avenue for this engagement would be calls between GC and the lab counsels.

2.2.7 Large Request for Quotations (RFQ) and Contract Awards: The current review process for large RFQ and contract awards, defined here as >\$1M, requires three rounds of duplicative reviews (i.e., field office contracting officer, Acquisition Project Management, and Head of Contracting Authority). Further, the reviews often include contradictory guidance/direction from the various reviewers. Consequently, high-dollar procurements are delayed, on average, by six to eight months.

Instead, the Task Force proposes utilizing a one-week discussion period with DOE to agree upon the strategic intent and constraints, followed by a single federal review once high-dollar RFQs are developed. The proposed process would reduce reviews to one contracting officer and could reduce review time to as little as two weeks.

Response: DOE intends to implement a contract experiment at a single program laboratory to enhance communication and reduce process time. As part of the agency subcontract approval process and to assist the contractor with understanding DOE's needs, the Federal Contracting Officer (CO) will engage with the Contractor Integrated Project Team (IPT) early in the subcontract planning process to enhance communication, and to increase early identification and resolution of issues. Early communication and resolution of issues with the Contractor and Federal Contracting Officer (CO) will streamline the DOE subcontract consent process. This experiment is intended to improve efficiency of subcontract procurement actions and to lower the overall costs to DOE for subcontract procurements.

Acquisitions (subcontracts) with a total estimated value in excess of \$25 million are considered large. Large value acquisitions are reviewed by the Site Office Federal Contracting Officer (CO) and an Independent Review Board (IRB), and then are sent to the Head of the Contracting Authority (HCA) for review and approval. If the acquisition is larger than \$50 million then it must be offered to the Office of Acquisition Management (MA-62) for further review and approval. It should be noted that MA-62 can elect to waive their review and typically does for Office of Science M&O subcontracts. By engaging a Federal CO in the Contractor Integrated Project Team early it will be possible to shorten review times for RFQ's and subcontract awards, in large part due to an

improvement in the quality of acquisition products. One of the primary causes of delays in the approval process is poorly prepared or inadequate documents that require significant re-work. For large RFQ's and contract awards the goal would be to review and approve the submitted documents within 30 business days of receipt. If an additional review/approval is required from MA-62 then the goal would be 45 business days.

The CO will not engage in activities that would could lead to making the subcontract procurement a purchase "by DOE" or that could create privity of contract between DOE and the subcontractor, such as preparing the subcontract solicitation, receiving and/or evaluating proposals, conducting discussions, selecting a prospective awardee or conducting responsibility determinations.

Laboratory Value to Private Sector, Including Technology Transfer

Recommendation 3.1: The Secretary of Energy should provide a statement to the DOE enterprise, including DOE staff and the laboratories, that laboratory technology transfer activities intended to create value for industry are part of the mission for DOE National Laboratories. Such a statement should be accompanied by any necessary implementation instructions.

Response: DOE agrees with this recommendation and notes that in addition to developing a current Department-wide policy statement on technology transfer activities, the new Office of Technology Transitions will also develop the statutorily required Technology Transfer Execution Plan, which will help set the strategic vision and implementation instructions for the Department. The policy statement and Plan will be drafted in the third quarter of fiscal year 2016. Additionally, technology transfer was included in the Department's inaugural Science and Energy Plan which describes the Department's science and energy functions, and the essential role that each plays across the Department and throughout the technology development lifecycle. With these documents DOE will build on prior Secretarial Policy Statements on Technology Transfer (most recently in 2011) and DEAR Clause 970.5227-3 (in all National Laboratory M&O contracts) to reinforce that technology transfer is a mission of the Department and all of its National Laboratories and facilities.

Recommendation 3.2: The DOE should organize its technology transfer activities using a decentralized approach where industry and laboratory participants interact directly to structure programs. As an experiment, the DOE could consider flexibility in such agreements to facilitate rapid laboratory-industry engagements.

Response: DOE implements a mix of decentralized and centralized approaches to technology transfer and notes that national laboratories currently have and employ the flexibility to interact directly with industry and negotiate agreements, including Strategic Partnership Projects (formerly

known as Work For Others), Cooperative Research And Development Agreements (CRADAs), and intellectual property licensing. DOE headquarters encourages industry to contact the national laboratories directly regarding these opportunities, such as through the Energy Innovation Portal for licensable laboratory patents and new laboratory user facilities database on the Office of Technology Transitions web page. Recognizing some of the constraints of existing mechanisms, DOE has over the last few years worked to provide more flexibility through the Agreement for Commercializing Technology (ACT) pilot discussed in the report. DOE is planning to assess if the flexibilities of the ACT mechanism can be further extended to include federally funded entities. DOE believes the pilot needs additional time to be implemented to determine if it can effectively alleviate some of the issues identified in the report. The evaluation of the pilot will take place at the end of the pilot in 2017.

DOE supports industry and laboratory interactions that are decentralized especially since each laboratory is unique and should develop unique partnerships that support the missions of the Department and its surrounding community and industry needs. Some technology transfer related approaches that laboratories have implemented include the New Mexico Small Businesses Assistance program at Los Alamos National Laboratory and Sandia National Laboratories which focuses on the needs of small businesses in the state of New Mexico. The Center for Advanced Energy Studies is another example where five regional universities and Idaho National Laboratory developed a consortium that is committed to conducting cutting edge energy research, educating the next generation of scientists and engineers, and partnering with industry to advance competitiveness. Other laboratories have similar programs where industry and laboratory participants interact directly to structure programs and activities. In addition to these existing programs, DOE's national laboratory impact pilot programs in the Office of Energy Efficiency and Renewable Energy are also structured to empower the laboratories to directly build relationships and agreements with industry, including Small Business Vouchers, Lab-Corps, and Technologists-in-Residence.

To complement the existing contracting mechanisms and laboratory led activities that are implemented in the field, DOE's new Office of Technology Transitions will implement the Technology Commercialization Fund created by the Energy Policy Act of 2005 in the second quarter of fiscal year 2016. This will be a centralized approach focused on increasing engagement between national laboratories and private sector partners around laboratory developed energy technologies.

Recommendation 3.3: The DOE should create fast-track CRADA and non-federal WFO contracting and approval processes supported at the laboratory level by a dedicated laboratory/DOE team of legal and procurement experts with a leader authorized to shepherd each agreement to completion, and pilot this process at three laboratories. This recommendation should be implemented by the Under Secretary for Science and Energy and the Administrator of the NNSA.

Response: DOE agrees in principle that speed of contracting with the private sector is important, however, it notes that there are fundamental differences in the manner by which the various DOE program offices partner with the private sector. DOE will build off prior benchmarking efforts, including the “Agreement Execution Process Study: CRADAs and NF-WFO Agreements and the Speed of Business” (PNNL Report- 20163, February 2011), and work with the labs to evaluate data on actual average agreement negotiation and approval times for CRADA and non-federal SPP approvals in order to gauge whether/ how much additional action is warranted. DOE notes that it released “Guidance for Fast-track Cooperative Research and Development Agreement (CRADA) Programs at DOE Facilities” in June of 2012. DOE will take steps to understand how the fast-track CRADA has been implemented and if it has made an impact on reducing the time it takes to get approval. A review of the average agreement times and the fast-track CRADA guidance will be an activity of the Technology Transfer Execution Plan and will be implemented starting in the fourth quarter of fiscal year 2016.

DOE agrees that there may be other opportunities to accelerate approval of partnering mechanisms, including the dedicated team model implemented by ARPA-E. Future contracting experiments conducted by the Department will be developed with these recommendations in mind.

Recommendation 3.4: Each DOE National Laboratory should adopt a personnel pathway that permits a limited number of staff to take entrepreneurial leave for a designated period with the assurance of appropriate resources upon return to restart a research program.

Response: The National Lab Directors Council agrees that Entrepreneurial Leave Policies (ELPs) have value in improving the success of technology transfer at DOE National Laboratories. The breadth and depth of ELPs at the National Laboratories differ. In general, an ELP allows National Laboratory employees to take a leave of absence or separation in order to start or join an entrepreneurial company. In some cases, the individual program may reduce some of the job security risks facing employees considering entrepreneurship by guaranteeing a job at the National Laboratory if returning within well-defined constraints. Other programs may require a separation with only partial certainty of returning to a job.

The NLDC notes that development and approval of an ELP policy involves significant effort and may require contractual and employee benefit modifications. Furthermore, the implementation and operation of an ELP program will require the laboratories to develop processes that address potential loss of funding, hiring replacement talent, and resources needed to successfully on-board returning employee. That being said, nearly one half of the national laboratories either have in place or are planning to develop ELPs within the next year. In Q2 FY16, all laboratories will document the status of their ELPs (active, actively developing, or no plans to develop). In reporting their current status, laboratories will share best practices they have developed as well as identify specific barriers limiting their ability to fully implement an ELP program. By Q4 FY16, NLDC will propose a set of actions that DOE should consider in order to facilitate use of best practices

across the laboratory complex and help minimize barriers to the laboratories' adoption of successful ELPs.

Recommendation 3.5: Each DOE national laboratory should track its impact on industry.

Response: DOE agrees that each national laboratory should track its impact on industry and should identify quantitative and qualitative metrics to better measure the efficacy of its engagement with industry. DOE's Office of Technology Transitions (OTT) together with the national laboratories are taking steps in the identification and further refinement of metrics and the collection and analysis of data for that purpose. OTT and the laboratories are currently analyzing the existing portfolio of industrial agreements to understand the nature and extent of these laboratory-industry engagements. OTT and the DOE laboratory Technology Transfer Working Group are working to build on FY14 efforts to construct a process methodology that enables real-time cross-sectional and longitudinal analyses of such data and reporting of results in the FY15 data collection request. However, DOE is being cautious to develop metrics and data collection and reporting activities, including continued collection of standard metrics across all labs, that incentivize the desired actions and empower the labs to report industry activities that are unique over the long term and make efficient use of DOE HQ, field offices, and the laboratory resources. Specifically, the OTT is giving additional consideration to how core platform technologies developed by the labs, such as high performance computing, have had long term societal impacts. DOE is also currently evaluating methods of gathering qualitative examples of successful lab-industry engagements.

DOE agrees in part with the recommendation that each lab should consider benchmarking against other successful partnerships at peer institutions, if and only if, a fair and appropriate "peer institution" is identified and metrics clearly specified. The DOE missions served by each laboratory define the capabilities of that laboratory and have direct impact on the partnerships that result. For example, a science or applied lab/facility (i.e. NREL or ANL) benchmarking against other successful partnerships at another science or applied lab (i.e. PNNL or ORNL) may be a worthwhile exercise, but an NNSA lab/facility (i.e. Y-12) benchmarking against other successful partnerships at a science or applied lab (i.e. ANL) may not. In Q4 FY16, the laboratories will pilot an inter-laboratory benchmarking study using readily available laboratory data (as determined by the participating laboratories). The study will use selected impact metrics and will focus on the mission specific performance of peer laboratories (i.e. NNSA, SC, or Applied/EM laboratories).

Laboratory Directed Research and Development

Recommendation 4.1: The NLDC should prepare and share a best practices document for managing LDRD programs.

The NLDC should capture their distributed expertise and experience to improve the overall quality and impact of the LDRD program. These best practices would be particularly beneficial to the SC laboratories that have recently added LDRD programs, but would be useful across the complex. The NLDC should complete and distribute these best practices by the end of FY 2015.

Response: The Department agrees with the Task Force as to the value of sharing best practices. The LDRD program provides the laboratories with the opportunity and flexibility to establish and maintain an environment that encourages and supports creativity and innovation, and contributes to their long-term viability. LDRD allows DOE's laboratories to position themselves to advance the national security mission and respond to the Nations' future research needs.

DOE is working to promulgate best practices on LDRD throughout DOE. DOE will establish a best practices process in FY 2016 to help the National Laboratories improve the flow of outcomes from LDRD to missions. A working group, led by NNSA and coordinated between the three Under Secretary offices, will develop an electronic forum to document and share best practices, and enhance reporting on the substance and value of the LDRD program. In FY 2016, DOE will issue a LDRD Highlights document; NNSA will also share the individual annual lab reports with Congress and provide an annual briefing for stakeholders on the benefits realized due to LDRD investments.

Best practices may help Labs improve their efficiency and effectiveness in:

- Facilitating the flow of outcomes from LDRD to missions
- Capturing the best ideas of a lab in a proposal and review process
- Aligning to strategic missions
- Analyzing LDRD program outcomes
- Maximizing the productivity of LDRD projects
- Engaging staff
- Enhancing communication within the lab
- Interfacing with field offices and HQ

Recommendation 4.2: The Secretary of Energy should set a common base for LDRD expenditures (the numerator) and laboratory expenditures (the denominator). It makes little difference if one uses Direct + Indirect cost or direct cost as the basis since the indirect cost portion will be roughly the same for all lab activities and LDRD activity. We prefer to use Total Direct Costs for the basis and we recommend 6%. Others may recommend more or less. We believe transparency in the method of calculation is important.

Response: We agree that transparency in the calculation is important. We have recently modified the DOE Order to provide that transparency as well as to reflect current Congressional direction. The percentage level of LDRD is set by Congress and is currently capped at 6 percent (burdened). The FY 2016 National Defense Authorization Act set a minimum rate of 5 percent and a maximum

of 7 percent for LDRD based on national security activities at the national security laboratories, a level more consistent with historic NNSA levels. The NDAA also requires that the Secretary and the Under Secretary for Nuclear Security brief Congress on the LDRD benefits, ongoing reviews of LDRD, costs and accounting practices associated with LDRD, and how LDRD projects support the mission of NNSA.

Recommendation 4.3: Provide enhanced reporting by the offices of the Under Secretary for Science and Energy, the Under Secretary of Management and Performance, and the Under Secretary for Nuclear Security on the substance and value of LDRD.

Response: During the FY 2015 Annual SC LDRD Program Review it was agreed to update the LDRD Highlights, last published in 2011, to better communicate the scientific success and impact of DOE LDRD programs. The LDRD Highlights document will demonstrate the substance and value of LDRD and will have input and review from all the appropriate DOE HQ offices, including the three Under Secretary offices. SLAC National Accelerator Laboratory and Idaho National Laboratory will lead a team of contractor staff to collect, edit, and consolidate some of the most notable success stories from recent LDRD projects. These success stories will focus on scientific breakthroughs, recruiting and retaining a world-class scientific workforce, and proof of concept for new technologies. The target date for completion of the Highlights document is September 30, 2016.

Recommendation 4.4: The NLDC should pilot an independent peer review of the LDRD program impacts and process of four laboratories, evaluating up to ten years of funded projects.

Response: The Department agrees with the recommendation and will contract with an outside organization to conduct the peer review. This should be a strategic review with a focus on LDRD processes and high-level outcomes at the four selected laboratories. Each of the four laboratories would prepare and present a summary of their LDRD goals, selection and review processes, LDRD program alignment with the Lab strategy, and outcomes and impacts in terms of the program goals and criteria.

The effort could include reviewing:

- The LDRD processes of the four selected laboratories to identify best practices that can be shared across the Lab system. This includes selection criteria, metrics, proposal reviews, project progress reviews and performance management, and post project evaluations.
- Return-on-investment to DOE and the Laboratory through LDRD, as demonstrated by new strategic research directions enabled by LDRD investments, new strategic capabilities that position the laboratory to respond to emerging mission needs, growth of targeted research areas and capabilities, and strategic staffing additions that contribute to the scientific and technical strength of the Lab.

- An integrated assessment of the LDRD programs at the four Laboratories focusing on common principles as well as the diversity of the programs, and how this diversity supports DOE as well as the unique mission and strategic environment of each Lab.

The peer review team should take into consideration the many independent peer reviews that have been already conducted by the Laboratories for their LDRD proposals, projects, and programs, and the data provided by the Laboratories should incorporate this body of work, as appropriate.

The four selected Laboratories should represent a cross section of the DOE Labs including a Science, Energy, and NNSA Laboratory, and an at-large Laboratory chosen to reflect the diversity in the Lab system. The at-large Laboratory should be chosen to underscore the breadth of LDRD program and its role in supporting the various DOE missions. Laboratories selected for this review should have a history with LDRD that is long enough to analyze long-term outcomes from a well-established program.

The target date for the Department to fully develop the object and goals of the independent peer review and select candidate organizations to conduct the review is April 29, 2016.

Recommendation 4.5: The Under Secretary for Science and Energy and the NNSA Administrator should pilot an approach with up to four laboratories, in which the laboratories define project scientific areas, but are not required to obtain approval of specific tasks.

This approach would encourage the laboratories to attack grand challenge problems and would foster more high-risk, high-payoff projects while decreasing the complexity of project approval. The laboratories should be encouraged to “think big” and develop LDRD programs that tackle complex, important science and technology challenges. This innovative approach would be effective for recruiting new talent to the laboratories.

Response: The current review of each proposed LDRD project by DOE adds value without adding significant time or resources to the approval process. It guarantees regular, formal engagement between the laboratories and Federal officials, and makes it possible to assure Congressional stakeholders that the LDRD program undergoes Federal oversight to ensure mission relevance and compliance with LDRD Order. Further, discussions with the laboratories indicate that the DOE review is not burdensome and support it being continued.

Recommendation 4.6: The NLDC should establish an Energy Science Study Group (ESSG) modeled on the Defense Science Study Group to develop laboratory leadership talent with broader capability to address and solve key DOE mission challenges.

Response: The NLDC supports the recommendation for an Energy Science Leadership Group and submitted a draft proposal for such a program to the Lab Policy Council for consideration. A planning group is actively framing a pilot for the program with the aim of identifying a first cohort made up of academics and early career lab scientists to pilot the program in the spring 2016.