

EXECUTIVE ORDER 13806: ASSESSING AND STRENGTHENING THE MANUFACTURING AND DEFENSE INDUSTRIAL BASE AND SUPPLY CHAIN RESILIENCY OF THE UNITED STATES

OMB No. 0704-AALC

B. COLLECTIONS OF INFORMATION EMPLOYING OPTIMIZATION MODELING & SIMULATION METHODS

On July 21, 2017 the President signed Executive Order 13806: Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States. Executive Order (EO) 13806 directs the Department of Defense (DoD) to assess, analyze, and make recommendations that would promote a more robust, secure, resilient and innovative industrial base. The EO requires a new survey of industry because information collected during previous government surveys does not include data related to industrial capacity with respect to military readiness, ongoing military operations, and the strategic planning of DoD.

The survey is designed to gather information about a company's ability to increase production capacity to meet national security requirements while considering predetermined limitations like workforce buildup, production space, and machinery availability. The survey also requests information about the cost and time required to increase capacity in order to achieve scenario-based requirements.

The information collected will be used by DoD to: (1) identify shortfalls in the industrial base supply chain (tiers 1-7); (2) conduct scenario-based modeling activities to assess industry's ability to meet DoD requirements, and (3) make actionable policy, legislative, investment, and/or specific sector recommendations to the President to strengthen the U.S. industrial base and supply chains.

DoD is leading the study; the data collected from the survey and other government sources will be grouped by sectors and areas of interest. Sectors include: aircraft, chemical, biological, radiological, and nuclear munitions, electronics, ground systems, strategic and critical materials, missiles, munitions, nuclear, sensors, shipbuilding, space, and soldier systems. Areas of interest include: workforce development, organic base, cybersecurity for manufacturing, and software. For each of the sectors and areas of interest, a working group composed of subject matter experts from DoD and other government agencies will review and assess the data received from the survey and other sources. The Institute for Defense Analyses (IDA), a federally funded research and development center (FFRDC), is conducting scenario-based analyses on behalf of DoD. Hereinafter, we will refer to all the personnel supporting the EO as the "EO team." The scenario-based analyses will include a comprehensive assessment of industrial base risks, industry's ability to meet production requirements, and actions required to reduce risk by

strengthening the industrial base and associated supply chains. The EO team will base their assessments on results derived from the following analyses:

- An **industrial base risk assessment** will identify supply chain risks based on previous assessments, consolidate the data by sectors, evaluate the current status of the risks, and establish prioritized mitigation strategies based on the likelihood of occurrence and its impact to the Department. The EO team will define main risk categories and develop overall recommendations to mitigate the risks through policy and legislative changes, and investment decisions. The EO team may also recommend deep-dive assessments of specific areas of the industrial base and supply chain.
- **Scenario-based analyses using modeling & simulation** will examine industry's ability to respond to national security requirements. The deterministic model, developed by IDA, will evaluate industry's capabilities and capacities against scenario-based requirements. The outputs of the modeling and simulation activity will provide the following: an assessment of defense weapon system shortfalls and inventory risk, estimates of prioritized industrial base investments, optimal mitigation costs, labor cost estimates, and optimal purchasing strategies. The EO team will use these outputs to provide recommendations to meet national security requirements.

As mentioned in the Supporting Statement Part A, MIBP requests clearance for this data collection effort to gather the data necessary to support EO 13806.

B.1 Respondent universe, sampling, and expected response rates

The survey targets companies in the U.S. industrial base – facilities that develop, manufacture, and/or integrate defense-related products. The respondent universe includes facilities from all supply chain tiers – from prime integrators to strategic and critical material providers. Although DoD is interested in data from the whole universe of defense industrial base companies, this survey effort is focused on obtaining data from first tier prime/integrator supplier facilities and sub-tier supplier facilities selected based on industrial base risks previously identified.

No statistical methodologies for stratification and sample selection will be used for this activity. A representative, random sample is not intended. Data collection will be grouped according to the following industrial base sectors: aircraft, chemical, biological, radiological, and nuclear munitions, electronics, ground systems, strategic and critical materials, missiles, munitions, nuclear, sensors, shipbuilding, space, software, and soldier systems.

B.1.1. Response rates

The exact number of direct and indirect suppliers of defense-related products is unknown. The Federal Procurement Data System (FPDS) lists around 66,000 DoD direct suppliers. For each of these 66,000 direct suppliers, there are multiple suppliers providing indirect services and products to DoD. From the universe of potential respondents, using a conservative estimate of respondents based on historical data, the time limitations and the voluntary nature of this data request, the EO team expects to receive responses from 1000 members of the supply chain.

B.1.2. Follow-up surveys

This is a one-time (non-periodic) data collection in support of DoD's response to Executive Order 13806.

B.1.3. Implementation Data collection

During this one-time data collection a survey help desk will be available to answer questions. The EO team will review survey responses to assess completeness, and contact the respondent for any necessary data clarification.

B.2. Procedures for sampling and estimation, degree of accuracy, specialized procedures, and periodic data collection cycles

DoD is not performing a statistical analysis. Data collection is not based on statistical sampling and will not be used to draw generalized conclusions of the defense industrial base universe. Whereas a typical survey might target a percent (sample) of the companies and draw conclusions about the overall state of industry, DoD is attempting to determine industry's ability to meet national defense requirements on a case-by-case basis using a deterministic optimization model. For each area of the supply chain, the population is equal to the sample size. Only the portions of the defense industrial base supply chain for which respondents provide data will be assessed in the DOD analyses.

The data collection success criterion is not based on the percentage of responses received, but the ability to gather information to determine whether the capacity for a specific product under study is enough to meet national requirements. For example, assume DoD's demand for a product is X for a product and the surveyed companies provide capacity Y . If $Y > X$, then the model concludes that industry is capable of meeting the production requirement for that specific product. On the other hand, if $Y < X$, the model will identify a shortfall for that product. To avoid inaccurate conclusions, the EO evaluation team will assess whether the available capacity data used in the analysis is representative of the total capacity available in the market. If it is not sufficiently representative, the EO evaluation team may recommend the collection of additional data for that specific part of the supply chain to accurately estimate the total capacity in the market and complete the analysis.

Responses are assumed to be accurate and reliable; however, the EO team will review responses to assess completeness. Where responses are incomplete or unclear, the EO team will contact the respondent to collect the data and/or get clarification.

B.3. Methods to maximize response rates and data reliability

B.3.1 Outreach Strategy

The EO team will maximize survey responses by conducting (1) direct outreach of targeted facilities and (2) indirect outreach via other partner agencies and industry associations. Direct outreach will include meetings such as focus groups, town halls, etc. and/or phone calls with industry to provide information about EO 13806 and request participation in the survey. Indirect outreach will include information dissemination via MIBP and other agencies websites, briefing

slides, and speaking engagements at large industry events to amplify messaging around the existence of EO 13806 and promote participation in the survey. All outreach materials aim to stimulate industry engagement and encourage survey responses. Outreach material will include background on the EO, intentions of the survey and assessment, the requirements of the EO response, and frequently asked questions (FAQs)

Industry will receive the survey via that following mechanism(s):

- Directly from the government. The survey will be posted on MIBP's public-facing website (www.businessdefense.gov) as a downloadable Excel document. MIBP's website will provide background information on the EO as well as FAQs and contact information for a survey help desk. The same web content and downloadable Excel document will be provided to the EO 13806 partner agencies and organizations for posting on their respective websites (e.g. Department of Commerce's Manufacturing Extension Partnership website).
- Via industry associations. Industry associations include, but are not limited to, the Aerospace Industries Association, the National Defense Industrial Association, and other similar organizations, who will send the survey (downloadable Excel document) out to their industry members with the accompanying background information and instructions. This activity may also occur related to an industry engagement activity as outlined in Section A.2.1.

Use of incentives. No payments or gifts are being offered to respondents as an incentive to respond to the survey.

Data reliability. The EO team developed a survey instrument and outreach materials using examples developed and fielded on recent similar data collections. Several experts on the EO team, including survey developers and researchers, industrial base analysts, sector subject matter experts, and IDA's model developers, reviewed the draft instrument and outreach materials and helped to refine them. The EO team also field-tested the data collection instrument.

Addressing item nonresponse. In cases of non-response, the EO team will focus study results on those industrial base sectors where robust data are available. Where appropriate, the EO team may choose to supplement lack of response or partial responses with open-source and other data currently available, and input from subject matter experts.

B.3.2 Follow up surveys

This is a one-time data collection to support EO 13806. No follow up surveys are planned at this time.

B.4. Tests of procedures

The EO team conducted a beta test of the survey with companies from the industrial base. The survey was revised based on findings from the beta test. The beta test provided an accurate estimate of respondent burden as required by OMB. The beta test also assessed flow and respondent comprehension.

B.5. Statistical agency contact on technical and statistical issues

The EO team consulted with industry analysts, researchers, survey developers, IDA's model development team, and sector subject matter experts to design the survey and develop the implementation of the data collection discussed in this information clearance. Since this assessment is not based on a statistical model, no plan to evaluate statistical results is necessary.

Table 1. Individuals consulted on the study design and implementation of data collection

Name	Phone number	Affiliation
Dr. Jim Thomason	703-845-2480	IDA
Dr. Justin Lloyd	703-845-6671	IDA
Ms. Julie Kelly	703-845-6961	IDA
Dr. Daniel Lago	703-845-2199	IDA

