



**UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MD 20814**

The contents of this document will be discussed at the scheduled Commission Meeting on May 8, 2019

This document has been electronically approved and signed.

**THIS MATTER IS NOT SCHEDULED FOR A BALLOT VOTE.
A DECISIONAL MEETING FOR THIS MATTER IS SCHEDULED ON MAY 22, 2019.**

Date: May 1, 2019

TO : The Commission
Alberta E. Mills, Secretary

FROM : Mary T. Boyle, Executive Director
Patricia M. Hanz, General Counsel

SUBJECT : FY 2019 Midyear Review

In the attached memorandum, the Executive Director summarizes staff's Midyear Review recommendations to allocate future unexecuted balances, should balances be available, to support existing project work. The memorandum provides a prioritized list of projects that staff recommends for funding consideration, subject to available unexecuted balances and acquisition feasibility.

Please indicate your vote on the following options:

- I. Approve the FY 2019 Midyear Review, as drafted.

Signature Date

- II. Approve the FY 2019 Midyear Review, with the following specified changes:

Signature Date

III. Do not approve the FY 2019 Midyear Review.

Signature

Date

IV. Take the other action specified below:

Signature

Date

Attachment:

Executive Director's Memorandum on the *FY 2019 Midyear Review*



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CONSUMER PRODUCT SAFETY COMMISSION
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 BETHESDA, MD 20814

This document has been electronically approved and signed.

May 1, 2019

TO: The Commission

THROUGH: Alberta E. Mills, Secretary
 Patricia M. Hanz, General Counsel

FROM: Mary T. Boyle
 Executive Director

SUBJECT: Fiscal Year (FY) 2019 Midyear Review

This memorandum summarizes staff’s Mid-Year Review recommendations to allocate future unexecuted balances, should balances be available, to support existing project work. Currently, staff forecasts that the CPSC may accumulate an unexecuted salary and expense balance of approximately \$3.5 million by year’s end. This unexecuted balance projection is attributable to lower than expected staffing levels and other variances in operating execution. The forecast is premised on a number of assumptions, including vacancy rate, and is, therefore, subject to change.

Recommendation: Authorize Projects to Fund from Unexecuted Balances, if Available

Similar to past practice, and given the uncertainty of the amount of year-end unexecuted balances, staff recommends a prioritized list of projects for funding consideration. Because unexecuted balances are unplanned and not recurring, staff’s recommendations for reallocation of unexecuted balances are generally limited to nonrecurring requirements (e.g., contracts). Staff has identified approximately \$4.9 million in projects for funding consideration and listed them in priority order (Table 1 below). If authorized by the Commission, the agency would fund the recommended projects in priority order, subject to available unexecuted balances and acquisition feasibility. Projects that are not funded this fiscal year could be revisited in a future fiscal year, subject to resource availability and identified needs.

Staff recommends that the Commission approve the projects in Table 1, as listed in priority order, subject to available unexecuted balances this fiscal year. The attachment provides a detailed description of each proposed project.

Table 1. Recommended Projects (dollars in thousands)

MY#	Office	Project Title	Amount
1	EXIT	Enterprise Data Analytic Strategy – IT Assessment	\$750
2	EXIT	Enterprise Data Analytic Implementation – Pilot Study to Use Machine Learning/AI	\$700
3	EXHR	NCARES	\$950
4	EXIT	SaferProducts.gov Modernization	\$590
5	EXHR	Lithium Batteries	\$170
6	EXC	Business Process Review for IT Modernization of Integrated Field System	\$350
7	EXHR	IoT Lab at NPTEC	\$75
8	EXHR	Smoke and CO Alarm Local Codes – Cities in the Alarm Operability Survey	\$150
9	EXHR	Gas Appliances CO Sensors – Effectiveness of Shut-off Devices	\$150
10	EXHR	Child Strength Measurement – Quantitative Analysis of Postural Data	\$100
11	EXHR	ATV Stability and Rollover – Occupant Protective Device (OPD) Design Concepts	\$695
12	EXHR	Safe Sleep Initiative	\$100
13	EXIS	eCommerce Concept of Operations (CONOPS)	\$225
Grand Total			\$5,005

For Additional Information

If you have any questions on these staff recommendations, please contact me directly.

Attachment: Detailed Project Description

Detailed Project Descriptions

MY#	Project Title	Amount (in \$000)	Description
1	Enterprise Data Analytic Strategy – IT Assessment	\$750	Develop an Enterprise Data Strategy that identifies in business and technical terms what CPSC would like to be able to do with its mission-facing data. In addition, develop a technical, multiyear Implementation Plan to achieve the Enterprise Data Strategy (while supporting existing capabilities). The Enterprise Data Strategy will include proposals and implementation approaches to: (1) create an enterprise data management availability method for CPSC; (2) leverage data across the enterprise to improve analytical insights; and (3) implement new analytic tools and use cases (<i>e.g.</i> , artificial intelligence, Data Lake, Big Data) to improve data analysis and identification of emerging hazards or potentially problematic products (<i>e.g.</i> , anomaly detection). The project will include an implementation plan with options, resources estimates, and cost tiers. The implementation plan will become the basis for a larger enterprise data analytics implementation initiative.
2	Enterprise Data Analytic Implementation – Pilot Study to Use Machine Learning/AI	\$700	This project focuses on the development of machine learning as an agency capability for identifying serious incidents that require action. The initial use cases will apply a solution customized to CPSC, written with open-source code to create a functionality that replicates human decision making for processing incident data. The goal is to rapidly deploy the use cases using AI and open-source tools with initial results 6 months from contract award. The use cases will be used to refine the larger CPSC Enterprise Data Strategy (see MY 1). Proposed use cases are: <ol style="list-style-type: none"> <u>Automated Coding</u>: Product Code/Severity Code assignment to retailer data using machine learning. This would provide a framework for getting initial classifications on data that currently are beyond our capacity to code clerically. <u>Data Matching</u>: Connecting recalls in DCM to cases in CPRMS to discern whether or not an incident involved a recalled product. This would accelerate predictive modelling capabilities as it would allow CPSC to model the elements within and across records that indicate that a product is likely to be recalled, thus signaling products that merit scrutiny and attention. <u>Data Translation</u>: Translating product information in CPRMS to HTS codes to allow incident data to signify inspection by Import Surveillance.

Detailed Project Descriptions

MY#	Project Title	Amount (in \$000)	Description
3	NCARES	\$950	This project focuses on creating and maintaining a data-collection effort for consumer product use for exposure and risk via a dynamic, ongoing, omnibus survey called the National Consumer Activity for Risk and Exposure Survey (NCARES). This is the first of a proposed multiyear effort completed in stages of design, Paperwork Reduction Act requirements, including the OMB process, to obtain approval, pilot survey, pilot analysis, and full-scale implementation. The result will address the most significant data gap identified by staff--namely the level of consumer exposure to products.
4	SaferProducts.gov Modernization	\$590	This project improves the user experience when reporting potentially unsafe products, registering businesses, and searching for information. Usability improvements include, but are not limited to, optimizing all functionality and content for mobile use; improving the delineation of "consumers," "businesses"; and "public database users" on the homepage; and reorganizing information content on static pages. The modernization will add multilingual capability, improve data access and visibility, enhance search capabilities, and assist with integrating internal systems and other applications. These updates will reduce the current abandonment rate and increase the number of reports received.
5	Lithium Batteries	\$170	The Commission has directed staff to perform work to address the emerging and ongoing hazards associated with high-energy batteries. This project supports Commission direction and will examine new technology to enhance the safety of high-energy density batteries in products. Testing battery packs: Initial cell propagation work showed materials that could be used to mitigate cell propagation and severe thermal events. Additional testing is under consideration to look at other potential effective materials and configurations. Early detection of lithium battery failure in E-scooters: E-mobility lithium-ion batteries continue to be a fire hazard concern. A technology to detect conditions before a battery thermal event can be adapted to prevent e-scooter fires. Technology will be applied and demonstrated.

Detailed Project Descriptions

MY#	Project Title	Amount (in \$000)	Description
6	Business Process Review for IT Modernization of the Integrated Field System	\$350	This proposal is for contractor support to facilitate the Commission-directed Business Process Review (BPR) for the Integrated Field System (IFS). The expected deliverables are a BPR report that will provide insight into organizational, technological, procedural, and staffing issues associated with the IFS for case and sample management purposes. Given the government shutdown, EXC reorganization, and staff shortages, EXC has not had capacity to conduct the review within existing resources.
7	IoT Lab at NPTEC	\$75	This project modifies the capability of the electrical lab space at NPTEC to accommodate the testing and evaluation of IOT-enabled consumer products. It will fund the study of safety vulnerabilities in a group of internet connected products through an interagency agreement with NIST provide local network for full functionality of IoT consumer products, and procure additional electrical lab equipment.
8	Smoke and CO Alarm Local Codes – Cities in the Alarm Operability Survey	\$150	In FY 2018, CPSC initiated work to update a CO and Smoke Alarm survey. Data for this proposed project is a follow-on to the survey information collected, correlating the survey data to the fire and CO codes for the area surveyed.
9	Gas Appliances CO Sensors – Effectiveness of Shut-off Devices	\$150	Conduct analysis of effectiveness of shut-off devices in gas appliances (with correlating standards, laws, codes) in reducing CO injuries and fatalities in EU/JPN. A need for this information has been identified as a component necessary for Voluntary Standard work to move forward.
10	Child Strength Measurement – Quantitative Analysis of Postural Data	\$100	Currently, the CPSC is working on child strength measurement. This project proposes additional work, adding research tasks to leverage the time children are already in the lab. The proposed add-on project will use 3D positional data and modeling to provide quantitative characterization of the tactics young children use when applying force. There are no known studies that provide detailed information about the influence of body position and tactics on measured strength in young children.
11	ATV Stability and Rollover – Occupant Protective Device (OPD) Design Concepts	\$695	This is follow-on to FY 2018 work building an ATV roll simulator. This proposal would develop proof-of-concept devices to understand better the potential for occupant-protection devices (OPDs) to mitigate rollover injuries on ATVs. This will provide information on the feasibility of addressing rollover hazards with OPDs. This is the final task in the ATV multiyear work plan.

Detailed Project Descriptions

MY#	Project Title	Amount (in \$000)	Description
12	Safe Sleep Initiative - Consumer Understanding of Warning Labels on Children's Products	\$100	This project is to collect consumer feedback to help direct staff work on infant sleep environment warning labels, messaging to parents for safe sleep, and feedback for voluntary standards work. If funding is not available, there will be no opportunity for consumers to provide collaborative feedback to ASTM on the warning label messages.
13	eCommerce Concept of Operations (CONOPS)	\$225	This request is to formulate a 5-year implementation plan, or concept of operations, based upon the findings from the e-commerce assessment completed in FY 2019. The 5-year implementation plan will provide a roadmap for CPSC to help identify and interdict high-risk e-commerce shipments, as well as estimate the resources needed. E-commerce work is envisioned to be in addition to the current import surveillance activities performed at traditional ports where entry is filed with CBP. This scalable plan will inform future budget requests in implementing: (1) new data sources needed to risk assess large volumes of small shipments; (2) modifications to RAM required to accommodate e-commerce data; (3) additional inspection, targeting, and supervisory staffing required (including equipment and other related costs) to support locations where e-commerce shipments arrive; and (4) potential partnership opportunities with the trade and other government entities to facilitate e-commerce enforcement.