

**STANDARD ON THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)
(29 CFR 1910.147)
January 2018**

**SUPPORTING STATEMENT FOR
THE STANDARD ON THE CONTROL OF HAZARDOUS ENERGY
(LOCKOUT/TAGOUT) (29 CFR 1910.147)¹
OFFICE OF MANAGEMENT AND BUDGET (OMB)
CONTROL NO. 1218-0150 (January 2018)**

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

The main objective of the Occupational Safety and Health Act of 1970 (i.e., “the Act”) is to “assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources” (29 U.S.C. 651). To achieve this objective, the Act authorizes “the development and promulgation of occupational safety and health standards” (29 U.S.C. 651).

Section 6(b)(7) of the Act specifies that “[a]ny standard promulgated under this subsection shall prescribe the use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of all hazards to which they are exposed, relevant symptoms and appropriate emergency treatment, and proper conditions and precautions of safe use or exposure.” This provision goes on to state that “[t]he Secretary, in consultation with the Secretary of Health and Human Services, may by rule promulgated pursuant to section 553 of title 5, United States Code, make appropriate modifications in the foregoing requirements relating to the use of labels or other forms of warning . . . as may be warranted by experience, information, or medical or technological developments acquired subsequent to the promulgation of the relevant standard” (29 U.S.C. 655).

With regard to recordkeeping, the Act specifies that “[e]ach employer shall make, keep and preserve, and make available to the Secretary . . . such records . . . as the Secretary . . . may prescribe by regulation as necessary or appropriate for the enforcement of this Act . . .” (29 U.S.C. 657). The Act states further that “[t]he Secretary . . . shall prescribe such rules and regulations as [he/she] may deem necessary to carry out [his/her] responsibilities under this Act, including rules and regulations dealing with the inspection of an employer’s establishment” (29 U.S.C. 657).

Under the authority granted by the Act, the Occupational Safety and Health Administration (i.e., “OSHA” or “the Agency”) published at 29 CFR 1910.147 a safety standard for general industry titled “Control of Hazardous Energy (Lockout/Tagout)” (i.e., “the LO/TO Standard” or “the

¹ The purpose of this Supporting Statement is to analyze and describe burden hours and cost associated with provisions of this standard that contain paperwork requirements; this Supporting Statement does not provide information or guidance on how to comply with, or how to enforce, these provisions.

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Standard”). The Standard regulates control of hazardous-energy sources using lockout or tagout procedures while workers service, maintain, or repair machines or equipment when activation, start up, or release of energy from an energy source is possible.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The Standard specifies several paperwork requirements. The following sections describe who uses the information collected under each requirement, as well as how they use it. The purpose of these requirements is to control the release of hazardous-energy sources while workers service, maintain, or repair machines or equipment when activation, start up, or release of energy from an energy source is possible; proper control of hazardous-energy sources prevent death or serious injury among these workers.

Energy-Control Procedure (paragraph (c)(4)(i)). With limited exception, employers must document the procedures used to isolate from its energy source and render inoperative, any machine or equipment prior to servicing, maintenance, or repair by workers. These procedures are necessary when activation, start up, or release of stored energy from the energy source is possible, and such release could cause injury to the workers.

Paragraph (c)(4)(ii) states that the required documentation must clearly and specifically outline the scope, purpose, authorization, rules, and techniques workers are to use to control hazardous energy, and the means to enforce compliance. The document must include at least the following elements:

- A) A specific statement regarding the use of the procedure;
- B) Detailed procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy,
- C) Detailed procedural steps for placing, removing, and transferring lockout or tagout devices, including the responsibility for doing so; and,
- D) Requirements for testing a machine or equipment to determine and verify the effectiveness of lockout or tagout devices, as well as other energy-control measures.

The employer uses the information in this document as the basis for informing and training workers about the purpose and function of the energy-control procedures, and the safe application, use, and removal of energy controls. In addition, this information enables employers to effectively identify operations and processes in the workplace that require energy-control procedures.

Protective Materials and Hardware (paragraph (c)(5)(ii)(D) and paragraph (c)(5)(iii)).

Paragraph (C)(5)(ii)(D) requires that lockout and tagout devices indicate the identity of the employee applying it. Paragraph (c)(5)(iii) requires that tags warn against hazardous conditions if

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the machine or equipment is energized. In addition, the tag must include a legend such as one of the following: Do Not Start; Do Not Open; Do Not Close; Do Not Energize; Do Not Operate.

These provisions provide a safe work practice to authorized workers applying the lockout/tagout devices by giving the identity of the person applying it and warning against hazards that might exist.

Periodic Inspection Certification Records (paragraph (c)(6)(ii)). Under paragraph (c)(6)(i), employers are to conduct inspections of energy-control procedures at least annually. An authorized worker other than an authorized worker using the energy-control procedure that is the subject of the inspection is to conduct the inspection and correct any deviations or inadequacies identified. For procedures involving either lockout or tagout, the inspection must include a review, between the inspector and each authorized worker, of that worker's responsibilities under the procedure; for procedures using tagout systems, the review also involves affected workers, and includes an assessment of the workers' knowledge of the training elements required for these systems. Paragraph (c)(6)(ii) requires employers to certify the inspection by documenting the date of the inspection and identifying the machine or equipment inspected, the workers included in the inspection, and the worker who performed the inspection.

Training Certification Records (paragraph (c)(7)(iv)).

The requirements that employers provide training to workers under paragraph (c)(7)(i),(ii) and (iii) are not considered to be a information collection requirement. OSHA is not taking burden for this activity under Item 12 of this Supporting Statement.

Under paragraph (c)(7)(iv), employers are to certify that workers have completed the required training, and that this training is up-to-date. The certification is to contain each worker's name and the training date. Written certification of the training assures the employer that workers receive the training specified by the Standard.

Disclosure of Inspection and Training Certification Records (paragraphs (c)(6)(ii) and (c)(7)(iv)). Under these provisions, employers subject to an OSHA inspection are required to disclose inspection and training certification records to the OSHA compliance officer. The inspection records provide employers with assurance that workers can safely and effectively service, maintain, and repair machines and equipment covered by the Standard. These records also provide the most efficient means for an OSHA compliance officer to determine that an employer is complying with the Standard, and that the machines and equipment are safe for servicing, maintenance, and repair. The training records provide the most efficient means for an OSHA compliance officer to determine whether an employer has performed the required training.

The Agency has no annualized records disclosure costs associated with enforcing the Standard. OSHA would only review records in the context of an investigation of a particular employer to determine compliance with the Standard. These activities are outside the scope of the PRA. See 5 CFR 1320.4(a)(2).

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Notification of Employees (paragraph (c)(9)). This provision requires the employer or authorized worker to notify affected workers prior to applying, and after removing, a lockout or tagout device from a machine or equipment. Such notification informs workers of the impending interruption of the normal production operation, and serves as a reminder of the restrictions imposed on them by the energy-control program. In addition, this requirement ensures that workers do not attempt to reactivate a machine or piece of equipment after an authorized worker isolates its energy source and renders it inoperative. Notifying workers after removing an energy-control device alerts them that the machines and equipment are no longer safe for servicing, maintenance, and repair.²

Offsite Personnel (Contractors, etc.) (paragraph (f)(2)(i)). When the onsite employer uses an offsite employer (e.g., a contractor) to perform the activities covered by the scope and application of the Standard, the two employers must inform each other regarding their respective lockout or tagout procedures. This provision ensures that each employer knows about the unique energy-control procedures used by the other employer; this knowledge prevents any misunderstanding regarding the implementation of lockout or tagout procedures, and the use of lockout or tagout devices for a particular application.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden.

Employers may use automated, electronic, mechanical, or other technological information-collection techniques, or other forms of information technology (e.g., electronic submission of responses), when establishing and maintaining the required records. The Agency wrote the paperwork requirements of the Standard in performance-oriented language (i.e., in terms of what data to collect, not how to record the data).

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in 2 above.

The requirements to collect and maintain information are specific to each employer and worker involved, and no other source or agency duplicates these requirements or can make the required information available to OSHA (i.e., the required information is available only from employers).

5. If the collection of information impacts small businesses or other small entities, describe the methods used to minimize burden.

The information collection requirements specified by the Standard do not have a significant impact on a substantial number of small entities. The Agency has published *OSHA Instruction, Directive Number CPL 02-00-147, The Control of Hazardous Energy – Enforcement Policy and Inspections Procedures, February 11, 2008*. Although this directive establishes OSHA's enforcement policy

²Paragraph (e)(2) requires similar notification; because of this similarity, the Agency is taking no burden hours or cost for this provision.

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for the standards addressing the control of hazardous energy, the Agency has made the directive available to the public to assist them in complying and understanding the requirements of the LO/TO Standard.

6. Describe the consequences to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing the burden.

The Agency believes that the information collection frequencies required by the Standard are the minimum frequencies necessary to effectively regulate hazardous-energy sources, and thereby fulfill its mandate “to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources” as specified by the Act at 29 U.S.C. 651. Accordingly, when employers do not perform the required information collections, or delay in providing this information, workers may not use energy-control procedures effectively and safely, thereby increasing their probability of death and serious injury caused by uncontrolled release of hazardous energy.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

- **Requiring respondents to report information to the agency more often than quarterly;**
- **Requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
- **Requiring respondents to submit more than an original and two copies of any document;**
- **Requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;**
- **In connection with a statistical survey that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **Requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
- **That includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
- **Requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

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No special circumstances exist that require employers to collect information using the procedures specified by this item. The requirements are within the guidelines set forth in 5 CFR 1320.5.

8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection before submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to those comments. Specifically address comments received on cost and hour burdens.

Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every three years -- even if the collection of information activity is the same as in prior periods. There may be circumstances that mitigate against consultation in a specific situation. These circumstances should be explained.

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3506(c)(2)(A)), OSHA published a notice on November 1, 2017 in the Federal Register (82 FR 50689) soliciting public comments on its proposal to extend the Office of Management and Budget's (OMB) approval of the information collection requirements specified in the Standard on the Control of Hazardous Energy (Lockout/Tagout)(29 CFR 1910.147). This notice was part of a preclearance consultation program that provided the general public and government agencies with an opportunity to comment. The Agency received one substantive public comment directly related to this ICR in response to the notice.

The commenter, Ms. Wendy Zindars, expressed support for the LOTO standard and emphasized the importance of the information collection requirements contained in the rule.

The commenter also raised questions about certain elements of this Supporting Statement primarily related to burden calculations and estimates. The commenter stated that OSHA had underestimated the overall burden hours that would be required to comply with the standard, but did not provide any specific information or alternative estimates to support that assertion, other than to suggest that OSHA may not be capturing recent changes in industry composition. Instead, the commenter pointed more specifically to several areas where she believed that OSHA overestimated the burden hours.

For example, the commenter expresses doubt as to how the total paperwork burden could increase if the estimated number of high impact establishments declined (p. 5). The explanation of the increase in burden hours is contained, in part, in Tables 3 and 4. Table 4 breaks down the sources of the increase across a number of the provisions of the standard. The commenter focuses on one part of the analysis, the development of new procedures, which comprises approximately 10% of the total burden hours. Even within the high impact establishments for this provision, the total number of burden hours increased as the mix of establishments shifted from fewer smaller

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establishments to more larger establishments. Given that the number of burden hours is scaled within this group by the size of establishment, this more than offset the slight decrease in total establishments within this group. OSHA has updated its explanation in Table 4 to clarify the rationale for the increase in burden hours for high-impact establishments.

The commenter also questions several of the agency's assumptions and estimates as insufficiently supported or outdated (pp. 3-5). OSHA's Information Collection Requests (ICRs) generally mirror the economic assumptions contained in the economic analyses (referred to as the Regulatory Impact Analysis, or RIA) for the rulemaking; OSHA does not have the resources nor OMB approval to collect new data for the purposes of extending OMB approval for its ICRs. The Agency's underlying legal authority for regulatory action, the Occupational Safety and Health Act, calls for acting on safety and health issues based on the best available evidence. It is not possible in all cases to be able to obtain empirically-based data on all elements of a regulatory action. In the case of the LOTO standard, the Agency followed its normal practice and issued a proposed rule and a supporting preliminary economic analysis, took public comments on them, including public hearings, in which a variety of issues were raised, but these assumptions and estimates regarding time estimates were considered to be reasonable. The commenter does not raise any specific evidence or logical objections to the estimates. The commenter does not indicate that changes to the industries would asymmetrically skew the overall estimates of the estimated paperwork burden. While the mix of industries is not identical to what it was 25 years ago, it is not indicated how this would change the underlying burden, or if so, how much. The commenter discusses 4- and 6-digit NAICS codes that have emerged within the manufacturing sector. However, the Regulatory Impact Analysis for this final rule was dealing with manufacturing at a very aggregated level (2-digit level).

The commenter (p. 7) points out that advances in information technology should be able to reduce the cost of complying with the rule. The Agency agrees with the commenter on this point, but has not reflected any such reduction in its burden estimates because OSHA allows for various methods of compliance and does not require the use of the time-saving methods identified by the commenter. In short, if anything, the Agency may be overestimating the current burden hours associated with the LOTO rule.

The Agency recognizes that from time to time, existing regulations require revisiting due to evolving technology. In this vein, the Agency is in the process of developing a Request for Information on certain aspects of the LOTO rule (see: U.S. DOL-OSHA, *2017 Fall Regulatory Agenda, Lock-out Tag-out Update* (RIN: 1218-AD00); <https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201710&RIN=1218-AD00>). The RFI would provide an opportunity for commenters to cite changes to industry which may have changed the relevant underlying industry profile in a way to significantly alter the burden to industry. The commenter is encouraged to participate in this process. Also, to obtain a more accurate representation of the NAICS codes that fall under the LOTO rule the Agency will be asking stakeholders to identify their industry (by NAICS code, where possible) when responding. The Agency realizes that there have been considerable technological advances and will be requesting additional information about any new technologies being applied and the quantitative and qualitative effects these have had on day-to-day operations.

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9. Explain any decision to provide any payments or gift to respondents, other than remuneration of contractors or grantees.

The Agency will not provide payments or gifts to the respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

The paperwork requirements specified by the Standard do not involve confidential information.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

None of the provisions in the Standard require sensitive information.

12. Provide estimates of the hour burden of the collection of information. The statement should:

- **Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.**
- **If this request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens.**
- **Provide estimates of annualized costs to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 13.**

Respondent Burden Hour and Cost Burden Determinations

For this Information Collection Request (ICR), OSHA used an industry-classification scheme from the Regulatory Impact Analysis (RIA) performed on the final Standard.³ This scheme classifies

³*Regulatory Impact and Regulatory Flexibility Analysis of 29 CFR 1910.147 (The Control of Hazardous Energy Sources—Lockout/Tagout)*, U.S. Department of Labor, OSHA, Office of Regulatory Analysis, August, 1989. The source of these data was a contract report titled, *Industry Profile Study of a Standard for Control of Hazardous Energy Sources Including Lockout/Tagout Procedures*, Eastern Research Group, May 1985.

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industries covered by the Standard into the following three groups: high-impact, low-impact, and zero- or negligible-impact. The high-impact group consists of all manufacturing industries (i.e., North American Industrial Classification System (NAICS) Codes 31-33 and others corresponding to 1987 SIC Codes 20-39), while the low-impact group includes industries in the following sectors: transportation⁴, communications⁵, utilities (i.e., electrical-generation establishments, but not power-distribution establishments)⁶, wholesale-trade⁷, retail-food⁸, and several industries in the service sector (i.e., personal services, business services, automotive repair, miscellaneous repair, and amusement services.⁹ Included in the zero- or negligible-impact group are industries found to have little potential for an accident involving hazardous-energy release. These industries include retail trade, finance, insurance, real estate, service, and public-administration industries not classified as high- or low-impact groups.

In deriving establishment and employment figures for the three impact groups, the Agency updated the total number of establishments from the previous ICR using data from the 2015 County Business Patterns.¹⁰ The Agency applied percentages obtained from the RIA to these updated figures to estimate the number of high- and low-impact establishments having authorized workers, as well as the number of authorized and affected workers at these establishments (see Tables 1 and 2).

Regarding the time estimates for performing the wide variety of information collections required by the Standard, OSHA is using the estimates from the previous ICR. These estimates appear to be reasonable because the Agency based them on data from the RIA which was available for public review and comment when it was published in the final Standard. In addition, most of the

⁴This sector is comprised of industries in the following NAICS codes: 481, 484, 485, 4861, 4869, 4871, 4879, 488, 492, 532411, 561510, 561520, 5621, 621910, and 713930.

⁵This sector is comprised of industries in NAICS code 517. Due to incongruence between SIC and NAICS codes, some industries in NAICS 485310 are included in both the transportation and communications sectors; these industries have been accounted for in the transportation sector and are excluded here to avoid double-counting of data.

⁶This sector is comprised of industries in the following NAICS codes: 221210, 221310, 221320, 221330, 486210, 562211, 562212, 562213, 562219, and 562920. Additionally, this sector excludes industries in NAICS codes 488119, 488490, 561710, 561790, 562910, and 562998; in translating between SIC and NAICS codes, small portions of these industries were included in the utilities sector. As only small portions of these industries are included, they are difficult to quantify and are excluded from this analysis.

⁷This sector is comprised of industries in the following NAICS codes: 423, 424, and 425.

⁸This sector is comprised of industries in the following NAICS codes: 311811, 4451, 4452, 446191, 447110, and 452910.

⁹This sector is comprised of industries in the following NAICS codes: 326212, 334611, 511199, 512110, 512240, 512290, 517919, 518210, 519110, 5321, 532220, 53229, 5323, 5324, 541213, 541340, 541350, 5414, 5415, 5418, 541921, 541922, 541930, 541990, 5613, 5614, 56159, 5616, 561710, 561720, 561740, 561790, 5619, 562991, 611511, 611620, 711, 713, 81111, 81112, 811198, 8112, 8113, 8114, 8121, 812210, 8123, 81292, 812990.

¹⁰2015 County Business Patterns, U.S. Census Bureau, 2015.

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establishments engaged in performing these information collections have many years of experiences in doing so; therefore, these times probably are upper-bound estimates.

Wage Rate Determinations

The Agency determined the wage rates from mean hourly wage earnings to represent the cost of employee time. For the relevant standard occupational classification category, OSHA used the wage rates reported in the Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics* (OES), May 2016 [date accessed: May 1, 2017]. (OES data is available at: <https://www.bls.gov/oes/tables.htm>. To access a wage rate, select the year, “Occupation Profiles,” and the Standard Occupational Classification (SOC) code.)

The costs of labor used in this analysis are estimates of total hourly compensation. To account for fringe benefits, the Agency used the benefit rate reported in the Economic News Release, Employer Costs for Employee Compensation – March 2017 (released June 2017), Bureau of Labor Statistics (BLS), U.S. Department of Labor <https://www.bls.gov/news.release/ecec.nr0.htm>. BLS reported that for civilian workers fringe benefits accounted for 31.7 percent of total compensation and wages accounted for the remaining 68.3 percent. For purposes of this analysis, the Agency uses the 31.7 percent fringe benefit level to represent the average level of fringe benefits in the private sector. To calculate the loaded hourly wage for each occupation, the Agency divided the mean hourly wage by 68.3 percent.

WAGE HOUR ESTIMATES				
Occupational Title	Standard Occupation Code	Mean Hour Wage Rate	Fringe Benefits Multiplier	Loaded hourly Wage Rate
Supervisory Manufacturing Worker (Supervisor)	51-1011	\$29.54	.683	\$43.25
Non-supervisory manufacturing worker	51-0000	\$17.88	.683	\$26.18
Secretary	43-6014	\$17.38	.683	\$25.45

The following sections summarize the methodology used to estimate the number of burden hours and the costs resulting from the information collection requirements of the Standard.

(A) Energy-Control Procedure (paragraph (c)(4)(i))

OSHA estimates that 25,281 high-impact establishments develop new procedures annually. The time to perform this activity ranges from 2 to 80 hours. In addition, 46,153 low-impact establishments will develop new procedures. The time for low-impact establishments to develop procedures is estimated at 2 hours. (See Table 3 for specific number of establishments in each size category for both high- and low-impact establishments; the burden hour for each size establishment; and details as to how OSHA arrived at the number of establishments.)

The Agency also estimates that, on a yearly basis, a supervisor takes from 30 minutes (.50 hour) to

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20 hours to update procedures in the 252,814 high-impact establishments and 30 minutes to update procedures in the 461,523 low-impact establishments affected. (See Table 3 for specific number of establishments in each size category for both high- and low-impact establishments; the burden hour for each size establishment; and details as to how OSHA arrived at the number of establishments.)

Burden Hours: 25,281 high-impact establishments (new procedures) x range of 2 to 80 hours = **185,040 hours** (See Table 3 for specific number of establishments in each size category for both high- and low-impact establishments; the burden hour for each size establishment; and details as to how OSHA arrived at the number of establishments.)

46,153 low-impact establishments (new procedures) x 2 hours = **92,306 hours** (See Table 3 for specific number of establishments in each size category for both high- and low-impact establishments; the burden hour for each size establishment; and details as to how OSHA arrived at the number of establishments.)

252,814 high-impact establishments (updating) x range of 0.5 to 20 hours = **537,285 hours** (See Table 3 for specific number of establishments in each size category for both high- and low-impact establishments; the burden hour for each size establishment; and details as to how OSHA arrived at the number of establishments.)

461,523 low-impact establishments x 0.5 hour = **230,763 hours** (See Table 3 for specific number of establishments in each size category for both high- and low-impact establishments; the burden hour for each size establishment; and details as to how OSHA arrived at the number of establishments.)

Total Burden Hours for (A): $185,040 + 92,306 + 537,285 + 230,763 =$
1,045,394

Cost: 1,045,394 burden hours x \$43.25 = **\$45,213,292**

(B) Periodic Inspection (Paragraph (c)(6)(ii))

OSHA assumes that a supervisor takes 20 minutes (.33 hour) to inspect an establishment's energy-control procedure once a year, and to prepare and maintain the inspection certificate. Therefore, the estimated total yearly burden hours and cost resulting from this paperwork requirement are:

Burden Hours: (292,825 high-impact establishments + 461,523 low-impact establishments) x .33 hour = **248,935 hours**

Cost: 248,935 burden hours x \$43.25 = **\$10,766,439**

(C) Training Certification Records (Paragraph (c)(7)(iv))

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The Agency estimates that 6.56 million workers (i.e., 6,556,127) covered by the Standard require training each year (i.e., the total number of authorized and affected workers in high- and low-impact establishments listed in Tables 1 and 2). This provision specifies that employers must prepare, maintain and disclose training records. The Agency assumes that, each year, employers have to prepare and maintain training records for 23 percent, or 1,507,909 of (1,507,909 = 754,348 establishments x 1.998957) these workers (i.e., new workers and workers who require training), as well as maintain training records for the remaining 5,048,218 workers (5,048,218 = 754,348 establishments x 6.69216). In this regard, OSHA believes that a secretary spends 3 minutes (.05 hour) preparing and maintaining the record for the 23 percent of workers who are new or require retraining; and, another 1 minute (.02 hour) maintaining the already prepared record for the remaining workers (77 percent). Accordingly, the annual burden hour and cost estimates for the paperwork requirements associated with this training requirement are:

Burden Hours: (754,348 establishments – prepare and maintain new training x 1.998957 (workers per establishment)) x .05 hour, rounded) + (754,348 establishments – maintain training records x 6.69216 (workers per establishment), rounded) x .02 hour) = **176,359 hours**
Cost: 176,359 burden hours x \$25.45 = **\$4,488,337**

(D) Notification of Employees (Paragraph (c)(9))

OSHA has determined that the average number of lockout or tagout events that occur annually vary by the size of the establishment and whether the establishment is in a high-impact or low-impact industry. OSHA estimates that there are approximately 91,648 authorized workers¹¹ in very small, high-impact establishments who would have to notify affected workers of the application and removal of lockout/tagout devices (since this practice was not customary and normal in these facilities prior to the promulgation of the standard) (see Table 1). (91,648 workers = 203,008 establishments x 75 operations/establishment x .00602 workers/establishment.)

OSHA estimates that, on average, there are 75 maintenance or servicing operations conducted annually in each very small, high-impact establishment. For other high-impact establishments, it is estimated that there are approximately 296,309 authorized workers in establishments who would have to notify affected workers of the application and removal of lockout/tagout devices (see Table 1). It is estimated that, on average, there will be 150 such maintenance or services operations conducted annually in each of these establishments. (296,309 workers = 89,817 high-impact, other than very small establishments x 150 operations/establishment x .02199 workers/establishment.)

Additionally, there are 797,259 authorized workers in low-impact establishments who would have to notify affected workers of the application and removal of lockout/tagout devices (see Table 2). These workers are estimated to perform, on average, 12 maintenance or servicing operations annually for each low-impact establishment. (797,259 workers = 461,523 low-impact establishments x 12 operations/establishment x .14395 workers/establishment.)

¹¹To calculate burden hours and cost, OSHA assumes that every authorized worker will notify the affected workers. The Standard requires only that one of the authorized workers (or an employer representative) notify the affected workers. Thus, OSHA likely overestimates the burden hours and cost associated with this requirement.

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OSHA estimates that a total of 60,887,058 lockout or tagout events occur annually where notification (not customarily performed) is needed. OSHA assumes that an authorized worker is a non-supervisory manufacturing worker who requires 15 seconds (.004 hour) to provide the required notification (i.e., 10 seconds for applying a lockout/tagout device, and five seconds for removing the device). Accordingly, the total annual burden hour and cost estimates for this notification are:

High-impact, very small establishments:

(203,008 establishments x .00602 workers/establishments, rounded) x 75 operations/year = 6,873,597 events/year

High-impact, other than very small establishments:

(89,817 establishments x .02199 workers/establishment, rounded) x 150 operations/year = 44,446,347 events/year

Low-impact establishments:

(461,523 establishments x .14395 workers/establishment, rounded) x 12 operations/year = 9,567,101 events/year

Burden Hours: 60,887,045 notifications x .004 hour = **243,547 hours**

Cost: 243,547 burden hours x \$26.18 = **\$6,376,060**

(E) Outside Personnel (Contractors, etc.) (Paragraph (f)(2)(i))

Paragraph (f)(2)(i) requires onsite and outside (contractor) employers to notify each other of their respective LO/TO procedures. Notification of respective LO/TO procedures takes 5 minutes (.08 hour) for the onsite and outside contractor to meet and discuss respective LO/TO procedures. As both the onsite employer and outside contractor attend the five-minute meeting, the Agency assumes a total of 10 minutes (.17 hour) for this requirement.

A supervisor/manager, at a wage rate of \$43.25 per hour will perform the notifications. Further, OSHA believes that contractors are involved in 10 percent of all lockout/tagout events. As determined above, there are **60,887,058** lockout/tagout events annually that require workers to be notified (**60,887,058** x 10% = 6,088,706 notifications) (6,088,706 notifications = 754,348 establishments x 8.071482 notifications per establishment).

Burden Hours: (754,348 establishments x 8.071482 notifications per establishment, rounded) x .17 hour = **1,035,080 hours**

Cost: 1,035,080 hours x \$43.25 = **\$44,767,210**

(F) Disclosure of Inspection and Training Certification Records (Paragraphs (c)(6)(ii) and (c)(7)(iv))

See Item 2.

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Table A12- Estimated Annualized Respondent Burden Hours and Costs

Information Collection Requirement	No. of Respondents Employers [a]	No of Responses per Respondent (Frequency or Frequency x Workers per establishment) [b]	Total No. of Responses [c] (a x b=c)	Avg. Burden per Response (in Hrs.) [d]	Total Burden Hours [e] (c x d=e)	Mean Wage Rate [f]	Total Burden Costs [g] (e x f= g)
(A) Energy-Control Procedure (paragraph (c) (4)(i))							
<i>1. High-impact establishments (new procedures)</i>							
<i>Very Small</i>	18,474	1	18,474	2	36,948	\$43.25	\$1,598,001
<i>Small</i>	5,151	1	5,151	12	61,812	\$43.25	\$2,673,369
<i>Medium</i>	1,155	1	1,155	40	46,200	\$43.25	\$1,998,150
<i>Large</i>	501	1	501	89	40,080	\$43.25	\$1,733,460
<i>Sub-total</i>	25,281	-	25,281	-	185,040	-	\$8,002,980
<i>2. Low-impact establishments (new procedures)</i>							
<i>Transportation</i>	24,736	1	24,736	2	49,472	\$43.25	\$2,139,664
<i>Communications</i>	5,301	1	5,301	2	10,602	\$43.25	\$458,537
<i>Utilities</i>	1,360	1	1,360	2	2,720	\$43.25	\$117,640
<i>Wholesale Trade</i>	3,597	1	3,597	2	7,194	\$43.25	\$311,141
<i>Food Stores</i>	1,594	1	1,594	2	3,188	\$43.25	\$137,881
<i>Services</i>	9,565	1	9,565	2	19,130	\$43.25	\$827,373
<i>Sub-total</i>	46,153	-	46,153	-	92,306	-	\$3,992,236
<i>3. High-impact establishments (updating procedures)</i>							
<i>Very Small</i>	184,737	1	184,737	0.5	92,369	\$43.25	\$3,994,959
<i>Small</i>	51,514	1	51,514	4	206,056	\$43.25	\$8,911,922
<i>Medium</i>	11,550	1	11,550	12	138,600	\$43.25	\$5,994,450
<i>Large</i>	5,013	1	5,013	20	100,260	\$43.25	\$4,336,245
<i>Sub-total</i>	252,814	-	252,814	-	537,285	-	\$23,237,576
<i>4. Low-impact establishments (updating procedures)</i>							
<i>Transportation</i>	247,358	1	247,358	0.5	123,679	\$43.25	\$5,349,117
<i>Communications</i>	53,010	1	53,010	0.5	26,505	\$43.25	\$1,146,341

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Information Collection Requirement	No. of Respondents Employers [a]	No of Responses per Respondent (Frequency or Frequency x Workers per establishment) [b]	Total No. of Responses [c] (a x b=c)	Avg. Burden per Response (in Hrs.) [d]	Total Burden Hours [e] (c x d=e)	Mean Wage Rate [f]	Total Burden Costs [g] (e x f= g)
<i>Utilities</i>	13,595	1	13,595	0.5	6,798	\$43.25	\$294,014
<i>Wholesale Trade</i>	35,969	1	35,969	0.5	17,985	\$43.25	\$777,851
<i>Food Stores</i>	15,937	1	15,937	0.5	7,969	\$43.25	\$344,659
<i>Services</i>	95,654	1	95,654	0.5	47,827	\$43.25	\$2,068,518
<i>Sub-total</i>	461,523		461,523		230,763	-	\$9,980,500
Total for (A)	-	-	785,771	-	1,045,394	-	\$45,213,292
(B) Periodic Inspection (paragraph (c)(6)(ii))							
<i>High-impact establishments</i>	292,825	1	292,825	0.33	96,632	\$43.25	\$4,179,334
<i>Low-impact establishments</i>	461,523	1	461,523	0.33	152,303	\$43.25	\$6,587,105
Total for (B)	-	-	754,348	-	248,935	-	\$10,766,439
(C) Training Certification Records (paragraph (c)(7)(iv))							
<i>Establishments with new/retrained workers</i>	754,348	1 x 1.998957	1,507,909	0.05	75,395	\$25.45	\$1,918,803
<i>Establishments with remaining workers</i>	754,348	1 x 6.69216	5,048,218	0.02	100,964	\$25.45	\$2,569,534
Total for (C)	-	-	6,556,127	-	176,359	-	\$4,488,337
(D) Notification of Employees (paragraph (c)(9))							
<i>High-impact, very small establishments</i>	203,008	75 x .00602	6,873,597	0.004	27,494	\$26.18	\$719,793
<i>High-impact, other than very small establishments</i>	89,817	150 x .02199	44,446,347	0.004	177,785	\$26.18	\$4,654,411
<i>Low-impact establishments</i>	461,523	12 x .14395	9,567,101	0.004	38,268	\$26.18	\$1,001,856
Total for (D)			60,887,045		243,547		\$6,376,060
(E) Outside Personnel (Contractors, etc.) (paragraph (f)(2)(i))							
	754,348	1 x 8.071482	6,088,706	0.17	1,035,080	\$43.25	\$44,767,210

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Information Collection Requirement	No. of Respondents Employers [a]	No of Responses per Respondent (Frequency or Frequency x Workers per establishment) [b]	Total No. of Responses [c] (a x b=c)	Avg. Burden per Response (in Hrs.) [d]	Total Burden Hours [e] (c x d=e)	Mean Wage Rate [f]	Total Burden Costs [g] (e x f= g)
GRAND TOTAL	754,348	-	75,072,010	-	2,749,315	-	\$111,611,338

13. Provide an estimate of the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14.)

- **The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life) and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life on capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.**
- **If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collections services should be part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.**
- **Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.**

Paragraph (c)(5)(ii)(D) requires that each lock and tag indicate the identity of the authorized worker applying it. Paragraph (c)(5)(iii) requires that tags warn against hazardous conditions that could arise if the machine, equipment, or system is energized. In addition, the tag must include a

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legend such as one of the following: Do Not Start; Do Not Open; Do Not Close; Do Not Energize; Do Not Operate.

OSHA estimates that a total of 60,887,058 lockout or tagout events occur annually where notification is needed. The Agency is estimating the cost of a tag is \$1.00 at an average use of 7 times per tag. The cost for each tag and tie is 0.17 cents. Therefore, OSHA estimates that employers will incur a cost for tags of \$1,478,686.

Cost: 60,887,058 (notifications)/ 7 (average use of tag) x .17 cents = **\$1,478,686**

14. Provide estimates of the annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Items 12, 13, and 14 into a single table.

The Agency has no annualized cost associated with enforcing the Standard. OSHA would only review records in the context of an investigation of a particular employer to determine compliance with the Standard. These activities are outside the scope of the PRA. See 5 CFR 1320.4(a)(2).

15. Explain the reasons for any program changes or adjustments.

OSHA is requesting an adjustment increase of 102,613 burden hours (from 2,646,702 hours to 2,749,315 hours). This increase is a result of updated data showing an increase in the number of affected low-impact establishments (from 435,063 establishments to 461,523 establishments).

In addition, OSHA is requesting an adjustment increase of \$52,265 in operation and maintenance costs (from \$1,426,421 to \$1,478,686) associated with the purchase of tags and ties by employers. This increase is also a result of updated data showing an increase in the number of affected low-impact establishments.

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection information, completion of report, publication dates, and other actions.

OSHA will not publish the information collected under the Standard.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be appropriate.

OSHA lists current valid control numbers in §§1910.8, 1915.8, 1917.4, 1918.4, and 1926.5 and publishes the expiration date in the Federal Register notice announcing OMB approval of the information-collection requirement. (See 5 CFR 1320.3(f)(3).) OSHA believes that this is the most appropriate and accurate mechanism to inform interested parties of these expiration dates

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18. Explain each exception to the certification statement.

OSHA is not seeking an exception to the certification statement.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

This Supporting Statement does not contain any information collection requirements that employ statistical methods.

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Table 1: Establishments and Employment in Manufacturing High-Impact Industries

Size Category	Employment Size	Total Number of Establishments	Number of Establishments Employing Authorized Workers	Total Number of Employees	Number of Authorized Employees			Number of Additional Employees Covered		
					Total	In Establishments with Compliant Lockout/Tagout Programs When Standard Published	In Establishments without Lockout/Tagout Programs When Standard Published	Total	In Establishments with Compliant Lockout/Tagout Programs When Standard Published	In Establishments without Lockout/Tagout Programs When Standard Published
Very Small	<20	203,008	203,008	1,145,600	114,560	22,912	91,648	114,560	22,912	91,648
Small	20-99	64,961	64,961	2,863,157	286,316	128,842	157,474	572,631	257,684	314,947
Medium	100-249	16,430	16,430	2,514,709	251,471	163,456	88,015	502,942	326,912	176,030
Large	250+	8,426	8,426	5,082,035	508,204	457,384	50,820	1,016,407	914,766	101,641
Total		292,825	292,825	11,605,501	1,160,551	772,594	387,957	2,206,540	1,522,274	684,266

Source: 2015 County Business Patterns Survey. U.S. Census Bureau, 2015.

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Table 2: Establishments and Employment in Low-Impact Industries

Industry	Total Number of Establishments	Number of Establishments Employing Authorized Workers	Total Number of Employees	Number of Authorized Employees			Number of Additional Employees Covered		
				Total	In Establishments with Compliant Lockout / Tagout Programs When Standard Published	In Establishments without Lockout / Tagout Programs When Standard Published	Total	In Establishments with Compliant Lockout / Tagout Programs When Standard Published	In Establishments without Lockout / Tagout Programs When Standard Published
Transportation	247,358	247,358	4,236,294	222,622	111,311	111,311	222,622	111,311	111,311
Communications	53,010	53,010	1,026,329	646,722	323,361	323,361	646,722	323,361	323,361
Utilities	13,595	13,595	232,604	66,616	33,308	33,308	66,616	33,308	33,308
Wholesale Trade	413,437	35,969	6,076,109	197,830	98,915	98,915	197,830	98,915	98,915
Food Stores	237,863	15,937	5,351,235	20,718	10,359	10,359	20,718	10,359	10,359
Services	1,112,261	95,654	17,645,550	440,010	220,005	220,005	440,010	220,005	220,005
Total	2,077,524	461,523	34,568,121	1,594,518	797,259	797,259	1,594,518	797,259	797,259

Source: 2015 County Business Patterns Survey. U.S. Census Bureau, 2015.

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Table 3: Written Procedures Assuming Half of the Original "Percent of establishments in Compliance When the Rule was Published"
 Establishment Calculations -- High Impact Establishments

Establishment Size	Number of Establishments	Percent of Establishments in Compliance when Rule Published	Existing Establishments Originally Lacking LOTO Program	Existing Establishments with LOTO Procedures when Rule Published	Percent of Establishments with Procedures but without Unwritten Plans	Existing Establishments with Unwritten Plans when Rule Published	Total Existing Establishments Requiring Revision	Annual Firm Turnover	New Establishments Requiring Revision
Very Small	203,008	10%	182,707	20,301	10%	2,030	184,737	10%	18,474
Small	64,961	23%	50,020	14,941	10%	1,494	51,514	10%	5,151
Medium	16,430	33%	11,008	5,422	10%	542	11,550	10%	1,155
Large	8,426	45%	4,634	3,792	10%	379	5,013	10%	501
Total	292,825		248,369	44,456		4,445	252,814		25,281

Calculation of Hours for New Establishments (No Existing Program) -- High-Impact Establishments

Establishment Size	Number of Establishments	First Year Hours	Total Hours First Year
Very Small	18,474	2	36,948
Small	5,151	12	61,812
Medium	1,155	40	46,200
Large	501	80	40,080
Total	25,281		185,040

Calculation of Hours for Recurring Burden in Existing Establishments -- High-Impact Establishments

Establishment Size	Number of Establishments	Hours	Existing Establishment Hours	Total Hours High Impact
Very Small	184,737	0.5	92,369	129,317
Small	51,514	4	206,056	267,868
Medium	11,550	12	138,600	184,800
Large	5,013	20	100,260	140,340

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Total **252,814** **537,285** **722,325**

Calculation of Hours for New Establishments (No Existing Program) --
 Low-Impact Establishments

	Number of Establishments	First Year Hours	Total Hours First Year
Transportation	24,736	2	49,472
Communications	5,301	2	10,602
Utilities	1,360	2	2,720
Wholesale Trade	3,597	2	7,194
Food Stores	1,594	2	3,188
Services	9,565	2	19,130
Total	46,153		92,306

Calculation of Hours for Recurring Burden in Existing Establishments -- Low-Impact
 Establishments

	Number of Establishments	Hours	Existing Establishment Hours	Total Hours Low Impact
Transportation	247,358	0.5	123,679	173,151
Communications	53,010	0.5	26,505	37,107
Utilities	13,595	0.5	6,798	9,518
Wholesale Trade	35,969	0.5	17,985	25,179
Food Stores	15,937	0.5	7,968	11,156
Services	95,654	0.5	47,827	66,957
Total	461,523		230,763	323,068

Grand Totals

Total Hours

High-Impact
 Establishments

722,325

Low-Impact
 Establishments

323,069

Grand Total

Hours: 1,045,394

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Table 4: Requested Burden-Hour Adjustments

Information Collection Requirement	Current Burden Hours	Requested Burden Hours	Adjustment to Hours	Cost Under Item 12	Responses	Explanation of Adjustment
(A) Energy-Control Procedure (paragraph (c)(4)(i))						
High-impact establishments developing new procedures	179,092	185,040	5,948	\$8,002,980	25,281	The estimated number of high-impact establishments developing new procedures decreased from 25,593 to 25,281 based on new data derived from the 2015 County Business Patterns. The estimated burden rose because the remaining high-impact establishments were larger (see Table 3).
Low-impact establishments developing new procedures	87,012	92,306	5,294	\$3,992,235	46,153	The estimated number of low-impact establishments developing new procedures increased from 43,506 to 46,153 based on new data derived from the 2015 County Business Patterns.
High-impact establishments updating procedures	520,153	537,285	17,132	\$23,237,576	252,814	The estimated number of high-impact establishments updating existing procedures decreased from 255,922 to 252,814 based on new data derived from the 2015 County Business Patterns. The estimated burden rose because the remaining high-impact establishments were larger (see Table 3).
Low-impact establishments updating procedures	217,532	230,763	13,231	\$9,980,500	461,523	The estimated number of low-impact establishments updating existing procedures increased from 435,063 to 461,523 based on new data derived from the 2015 County Business Patterns.

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Information Collection Requirement	Current Burden Hours	Requested Burden Hours	Adjustment to Hours	Cost Under Item 12	Responses	Explanation of Adjustment
(B) Periodic Inspection Certification Records (paragraph (c)(6)(ii))	241,133	248,935	7,802	\$10,766,439	754,348	The estimated number of high-impact establishments being inspected annually decreased from 255,299 to 252,814; this increase was off-set by the number of low-impact establishments being inspected annually, which increased from 435,063 to 461,523 based on new data derived from the 2015 County Business Patterns.
(C) Training Certification Records (paragraph (c)(7)(iv))	167,527	176,359	8,832	\$4,488,337	6,556,127	Based on new data, the number of employees covered by the Standard who require training annually increased from 6.23 million to 6.56 million.
(D) Notification of Workers (paragraph (c)(9))	234,940	243,547	8,607	\$6,376,060	60,887,058	There was an increase in the estimated number of employee notifications from 58,735,978 to 60,887,058.
(E) Offsite Personnel (Contractors, etc.) (paragraph (f)(2)(i))	998,495	1,035,080	36,585	\$44,767,210	6,088,706	Lockout/Tagout notifications increased from 5,873,498 to 6,088,706.
(F) Disclosure of Inspection and Training Certification Records (under paragraphs (c)(6)(ii) and (c)(7))	818	0	-818	\$0	0	The Agency has no annualized cost associated with enforcing the Standard. OSHA would only review records in the context of an investigation of a particular employer to determine compliance with the Standard. These activities are outside the scope of the PRA. See 5 CFR 1320.4(a)(2).
TOTALS	2,646,702	2,749,315	102,613	\$111,611,338	75,072,010	