

Appendix A - Excerpts from Cranes and Derricks in Construction: Operator Qualification
Final Rule Describing Significant Substantive Comments and Significant Changes
Related to the ICR (OMB Control No. 1218-0270)

In the final rule excerpts below, OSHA provides a summary of the discussion of public comments that pertain to the ICR.

III. Summary and Explanation of the Amendments to Subpart CC

Discussion of the Final Rule's Organization and General Terms Used in Its Summary and Explanation.

Paragraph (a) - Duty to Train, Certify or License, and Evaluate Operators.

Paragraph (a) sets out the employer's responsibility to ensure that each operator completes three steps before the employer permits the operator to operate equipment covered by subpart CC without continuous supervision. In the regulatory text, OSHA refers to this entire three-step process as "qualification." Each operator must be trained to do the crane activities that will be performed, be certified/licensed in accordance with subpart CC, and be evaluated on his or her competence to safely operate the equipment that will be used. The new approach provides a clearer structure than the previous format of the standard, which was not designed to accommodate both certification and evaluation.

The current certification/licensing requirement, which is the centerpiece of the previous operator requirements, remains largely unchanged under the revised standard, with the exception that different certifications for different capacities of cranes would no longer be required. The reference to "certified/licensed" is intended to encompass each of the certification options in the standard (third-party certification or an audited employer certification program) as well as state or local operator licensing requirements.

Several commenters requested that OSHA remove the existing requirement for operator certification from the standard (see, e.g., ID-1605, 1615, 1821, 1826). These commenters faulted OSHA for failing to re-justify the requirement for operator certification or did not think it should be applied to their specific industry.

However, operator certification was central to the 2010 final rule, which was based on the industry stakeholder recommendations through a negotiated rulemaking. Comment was requested on the proposal in that rulemaking, and OSHA held several days of hearings on the proposal. OSHA published the rationale and justification for the inclusion of the certification requirement in the standard in the 2010 preamble, and so there was no need to re-explain the agency's lengthy analysis in this new rulemaking. In the NPRM for this rulemaking OSHA did not signal that it was considering removing certification: to the contrary, one of the main purposes of the rulemaking was to implement a change to the certification requirement (removing capacity) in recognition of the limited safety benefits of that requirement. This would reduce needless regulatory burden and ensure that the employers of a majority of operators would be able to comply with the certification requirement. OSHA also proposed to clarify and make permanent other employer evaluation duties, but those were proposed *in addition to* the operator certification requirements and the proposal re-organized the standard to encompass both.

With certification already a requirement of the standard, the main issue in this rulemaking besides the content of the certificate was the additional employer evaluation requirement. One commenter claimed that OSHA's "policy shift" to include additional employer evaluation duties in the current rulemaking "demonstrates that even it does not believe that certification is necessary to verify basic crane operating skills and knowledge

needed to safely operate the equipment” (ID-1605, p. 2). OSHA disagrees. OSHA accepted the construction industry stakeholders’ recommendation for a third-party certification requirement in 2010 after OSHA’s previous construction cranes standard, which included a generic duty for employers to assess operators but no independent certification of the operator’s knowledge or abilities, appeared ineffective in reducing fatalities and injuries caused by crane operator errors. OSHA proposed the employer evaluation in this current rulemaking as an *addition to* certification, not as an *alternative to* certification, because those provisions are intended to work in tandem as explained in more detail elsewhere in this preamble. The certification provides an independent assessment of general baseline knowledge and skill and the employer evaluation focuses on specific knowledge and skills needed for the safe operation of particular equipment for particular tasks.

OSHA also disagrees with the claim that adoption of a permanent requirement for employer evaluation of operators undercuts the need for certification (see also ID-1821). Many of the industry stakeholders who participated on the negotiated rulemaking committee (C-DAC) who recommended independent operator certification saw a need to verify baseline crane operating knowledge and skills, and OSHA incorporated that recommended requirement into its standard after public comment and extensive analysis, as explained at length in its 2010 final rule and accompanying preamble (75 FR 47905). But following that rulemaking, industry stakeholders noted a distinction between the basic operating knowledge and skill needed to pass a certification examination, on the one hand, and on the other the knowledge and skill needed to safely operate specific equipment to complete a specific task on a construction site. Employers had traditionally

addressed this distinction when complying with OSHA’s general construction requirement in § 1926.20(b)(4) (“The employer shall permit only those employees qualified by training or experience to operate equipment and machinery”). But the inclusion of specific operator training and certification requirements in the 2010 standard supplanted that general requirement, apparently to the surprise of some former C-DAC members, who then began advocating for a replacement (see e.g. ID-0539). With additional information from industry, the agency has taken action through this rulemaking to prevent individuals from performing construction work using even the types of machinery for which they are certified until employers confirm that they are sufficiently familiar with the particular machines they will operate and the specific tasks they will perform in order to ensure safety.¹

OSHA also disagrees with the assertion that OSHA had previously stated that certification would, by itself, eliminate unqualified operators, and that OSHA further stated that the “intent of certification ... was clear all along: the test would demonstrate the operator’s technical knowledge specific to the equipment—meaning certification equated to qualification” (ID-1605).

Many commenters requested exemptions from the operator certification requirements or the entire rule. These comments, which included several mass mailings of identical or nearly identical comments, focused on exemptions for the use of cranes in three industries: delivery and installation of propane tanks; using equipment attached to scaffolding to hoist loads up to the scaffolding; and using equipment to install signs (see,

¹ The employer evaluation requirements should also allay stakeholder concerns about the removal of the requirement for certification by different crane capacities, which OSHA had previously incorporated as a means of addressing significant differences between machinery within a single type of crane.

e.g., ID-1184, 1631, 1830).² OSHA noted in the proposed rule that broad requests for exemptions from existing requirements were beyond the scope of this rulemaking, but requested comment on whether there should be exemptions from the revised *employer evaluation* requirements (83 FR 23544). Thus, exemptions from the revised employer evaluation requirements were the only exemptions OSHA proposed in the NPRM.

To the extent that commenters from these industries addressed employer evaluations of operators, they suggested that they were already performing the types of

² One commenter from the pre-cast concrete industry requested an exemption from the certification requirements for operators of knuckleboom cranes, noting that these cranes “are present in a large number of precast concrete plants” (ID-1047). The commenter continued that “[a]dding a national certification requirement for knuckle-boom cranes would not likely have an impact on improving safety within the plant ... This assessment is backed by data from the Bureau of Labor and Statistics, which identifies general industry, of which the precast concrete industry is a part, as accounting for a significantly lower rate of workplace accidents involving cranes than the private construction industry.” The commenter described the burden on “these small manufacturers” and also stated: “While some precast concrete plants have crane operators who would need to be certified on other classes of cranes, there are likely thousands of plant personnel who operate only a knuckle-boom style of crane.” Taken together, the references to the employers as manufacturers engaged in general industry work, the use of the cranes in “the plant,” and their presence in a “large number of ... plants,” the commenter seems to misinterpret OSHA’s construction crane rule as applicable to that industry’s general industry activities. The operator certification requirement only applies when equipment is used for construction work, not for the manufacture of pre-cast concrete in a manufacturing plant. A different commenter (ID-1190) also requested an exemption for “pre-cast concrete manufacturers” and referred to “drivers” requiring certification. OSHA has previously clarified that manufacturers who simply deliver their products to the ground on a construction site are not considered to have engaged in construction activity, so the drivers in that scenario would not require certification under OSHA’s construction cranes standard.

A different commenter, without identifying his industry, asked for an exemption for “small truck mounted booms” under the theory that employers, rather than pay for operators to be certified, would simply “eliminate these valuable tools that will ultimately lead to more back injuries because proper tools are not available to the employee” (ID-1373). OSHA notes that its standard already exempts from the certification requirement operators of “equipment with a maximum manufacturer-rated hoisting/lifting capacity of 2,000 pounds or less” (revised 29 CFR 1926.1427(a)(2)).

A third commenter noted his opposition to operator certification because “I believe that there are only three entities that are recognized for this outside of the Operating Engineers for union shops. OSHA ... must provide a clear process for employers to seek accreditation that is independent of the currently accredited entities” (ID-0704). OSHA’s standard does not restrict the number of third-party certifying entities or their accrediting bodies. OSHA’s standard also allows individual employers to comply with the certification requirement by certifying their own employees through a program audited by a third-party (see revised 29 CFR 1926.1427(e)).

evaluations that would be required by the revised standard.³ Indeed, despite the fact that employers in these industries have been required to perform some sort of operator assessment for the last eight years under § 1926.1427(k), they provided no examples of hardship or obstacles that have arisen during these assessments that would indicate that the new evaluation requirements would also pose an undue burden. OSHA is therefore not persuaded that employers in these industries should be exempt from the requirement to evaluate operators. Other than for operators of sideboom cranes, derricks, or equipment with a lifting capacity of less than two tons, the evaluation requirements in the new standard apply to all operators.⁴

OSHA did propose a change to the regulatory text in § 1926.1427(a)(2). While the prior regulatory text in § 1926.1427(a) had excepted operators of this group of equipment from only the “Operator qualification or certification” requirements of section § 1926.1427, corresponding scope provisions in § 1926.1436(q) (derricks), § 1926.1440(a) (sideboom cranes), and § 1926.1441(a) (cranes with capacity of a ton or

³ For example, a representative of the propane industry explained that “experienced propane field technicians provide hands-on training to new employees in coordination with or subsequent to review of written training materials” (ID-1631). Their industry also “utilizes competency training materials that provide training on the use of cranes to deliver and retrieve a propane container,” and “utilizes the crane training materials along with other industry-developed training materials to provide new training before an employee is assigned a new responsibility as well as at regular intervals to serve as refresher training” (ID-1631). A representative of the precast concrete industry explained that their organization’s “engineers have visited hundreds of plants and have observed . . . owners ensuring operators competency” (ID-1047). The rationale for the employer evaluation seems equally applicable to these industries and the commenters do not provide any persuasive evidence disputing that it is important that employers evaluate operators to assess whether they have the knowledge and skills to safely operate the equipment which they are assigned to use to perform construction tasks.

⁴ One of the same group of commenters also suggested, if removal of certification is not an option, that OSHA consider allowing “one certification based on function,” such as a single certification for operators of propane delivery cranes (as opposed to a certification for each type of crane) (ID-1631). A different commenter requested that OSHA remove the existing exemption from the certification requirements for cranes with a lifting capacity lower than 2,000 pounds (§ 1926.1427(a)(3)), asserting that these smaller cranes can also pose safety hazards (ID-1475). Neither of these requests address any of the changes proposed in the NPRM and are therefore outside the scope of the rulemaking.

less) each specify that *none* of the requirements of § 1926.1427 apply to operators of those types of equipment. Therefore, OSHA proposed in the NPRM to better align § 1926.1427 with §§ 1926.1436, 1440, and 1441. However OSHA proposed to apply the new employer evaluation requirement to operators of these types of equipment, so the proposed language of § 1926.1427(a)(2) included an exception from only the certification “and training” requirements of § 1926.1427 (see also the discussion of the proposed amendments to §§ 1926.1436, 1440, and 1441). In light of OSHA’s decision not to apply the new evaluation and documentation requirements to operators of this group of equipment (see discussion of revised paragraph § 1926.1427(f) later in this preamble) OSHA has revised the paragraph to preserve the previous categorical exclusion for this group of equipment from all of the requirements in § 1926.1427.

Paragraph (b) Operator Training.

Most of the specific training requirements in paragraph (b) are identical or similar to the previous training requirements.

Paragraph (b)(4) prescribes minimum requirements for monitored training of operators-in-training and trainers who monitor operators-in-training. Revised (b)(4)(i) specifies requirements for the required trainer which are similar to requirements in paragraph (f)(3) of the 2010 crane standard. Paragraph (b)(4)(i)(A), which requires that the trainer must be an employee or agent of the operator-in-training’s employer, is identical to subparagraph (f)(3)(i) of the 2010 crane standard.

The remainder of paragraph (b)(4) does not contain any substantive changes from the previous rule, did not receive any comments, and is promulgated as proposed.

Paragraph (b)(4)(iii) requires the operator's trainer and the operator-in-training to be in each other's direct line of sight, and that they communicate verbally or with hand signals. This requirement is substantively the same as previous paragraph (f)(3)(iv), with minor simplifying changes. The revised standard relocates this provision to an independent subparagraph to clarify that the employer has the ultimate responsibility for ensuring compliance with this requirement. This revised paragraph also retains an exception for tower cranes so that the trainer and operator-in-training must be in direct communication with each other, but are not required to maintain a direct line of sight because the height of the operator's station may make it infeasible. (See also, the discussion of previous paragraph (f)(3)(iv) in the preamble to the 2010 final crane rule at 75 FR 48024.) This exclusion in this final rule is also substantively the same as paragraph (f)(3)(iv) of the 2010 crane rule, with minor simplifying language changes.

Paragraph (b)(4)(iv)(B) requires the employer to ensure that the trainer and operator-in-training communicate about the tasks, if any, that can and cannot be performed in the trainer's absence while on break.

Paragraph (c) Operator Certification and Licensing.

Paragraph (c) retains the certification and licensing structure of the 2010 crane standard with only a few minor modifications intended to improve comprehension of certification/licensing requirements.

OSHA removed the reference to an "option" with respect to mandatory compliance with previous state and local licensing requirements. When a state or local government issues operator licenses for equipment covered under subpart CC, and that government licensing program meets the requirements specified in the standard, then

employers must ensure that equipment operators are properly licensed when working in the state or local jurisdiction, even if the operator is also certified by a nationally accredited certification organization. However, the state or local license would satisfy OSHA's certification requirement: OSHA will not *require* an operator who obtains such a state or local license to also obtain a separate certification from a nationally accredited certification organization or an employer-audited program.

The content of revised paragraph (c)(1) is virtually identical to provisions in § 1926.1427(e)(2) of the 2010 crane rule, with one exception: revised (c)(1)(v). For a more detailed explanation of the other provisions in this paragraph, see the preamble discussion of § 1926.1427(e)(2) in the 2010 crane rule at 75 FR 48021-23 (August 9, 2010).

The remainder of the requirements of paragraph (c)(1) are substantively the same as those in §§ 1926.1427(a)(1), (a)(2), and (e) of the previous rule, except that OSHA combined the requirements of those three paragraphs into one paragraph and clarified some of the language to facilitate better comprehension of state or local government entity requirements. Paragraph (c) restates more clearly the requirement in previous paragraph (a)(1) that the employer must ensure operators are certified and licensed. Paragraph (c)(1) substantially incorporates the requirements of previous paragraph (a)(1)(i) and combines it with the licensing criteria in previous paragraph (e)(2)(i)-(iv). Paragraph (c)(1)(v) is substantially the same as previous paragraph (e)(3)(ii).

Paragraph (c)(2) specifies the certification requirements for two remaining situations: the construction occurs in a state or local jurisdiction that does not require licensing of equipment operators, or the construction occurs in a state or local jurisdiction where the licensing program does not meet the “federal floor” of requirements

established in this standard. In each of those situations, the operator would have to be certified in accordance with paragraph (d) (third-party certification) or (e) (audited employer program) of this section. Paragraph (c)(2) is identical to previous § 1926.1427(a)(2), except that it references only the paragraphs containing criteria for certification by an accredited testing organization and an audited employer program—and not the option for qualification by the U.S. military which is addressed as a scope exclusion in Paragraph (a)(3). Revised paragraphs (d) and (e), discussed later, correspond to previous paragraphs § 1926.1427 (b) and (c), respectively.

Paragraph (d) – Certification by an Accredited Crane Operator Testing Organization.

As noted above, paragraph (c)(2) provides two options for certification: compliance with paragraph (d) (third-party certification) or paragraph (e) (audited employer program). Compliance with the requirements of paragraph (d) is the option that OSHA expects the vast majority of employers to use. Paragraph (d) retains, with some non-substantive language clarification and two exceptions discussed below, the requirements of previous paragraph § 1926.1427(b) and is unchanged from the proposal.

First, the most significant change is that paragraph (d)(1)(ii)(B) replaces the references to certification by “type and capacity” that appeared in previous sub-paragraph (b)(1)(ii)(B) with “type, or type and capacity,” as recommended by ACCSH (see OSHA-2015-0002-0037 pg. 71). OSHA has therefore also reworded previous paragraph § 1926.1427(b)(1)(ii)(B) to remove the requirement that an operator’s certificate list a lifting capacity for which the operator was certified. The need for these changes is explained in the “Need for a Rule” section of this preamble. These revisions remove the requirement to obtain a certification for a designated crane capacity, but also clarify in

the regulatory text that OSHA considers testing organizations whose programs provide certifications that specify “type and capacity” equally acceptable.

The “type, or type and capacity” language was requested by Crane Institute Certification and recommended by ACCSH. Several other commenters also made this request (OSHA-2015-0002-0036). The language has been included in the final rule to make clear that while all certifying bodies must certify by type of crane for their certifications to meet OSHA’s requirements, testing organizations may also choose to specify for their certifications different levels of rated lifting capacity of cranes.

As explained in the section *Elimination of the Requirement to Certify Based on Capacity of Crane* of this final rule, almost all the comments received relating to the proposed removal of the requirement to certify by capacity were in favor of its removal. The commenters were split, however, on whether OSHA should keep the “type, or type and capacity” language in the regulatory text. One of those commenters specifically requested OSHA to keep the proposed language because many of its members “currently require certification by type and capacity, and have expressed that they find both types of certification to be beneficial to establishing a baseline operator competency,” and added that this language “will help alleviate confusion about the changes to the requirement and allow employers to maintain their current certification requirements as they see fit” (ID-1735). The one commenter who opposed OSHA’s decision to remove the requirement for certification by capacity concluded that if OSHA did remove that requirement, then ACCSH’s recommended language of “type, or type and capacity” should stay in the rule (ID-1235).

The agency also received comments requesting that OSHA not include the language “or type and capacity” in the standard. Two of these comments were submitted by certification bodies that currently provide certification by type only. Both believe removing this language will add clarity and reduce confusions among the regulated community (ID-1755 and 1816). One of them is concerned that keeping the language will inaccurately convey that “the only options for certification are either (a) by type, or (b) by type and capacity,” whereas “testing organizations may in fact seek to consider factors other than ‘type’” or capacity when developing operator certification programs (ID-1755). A different commenter believes removing the reference to capacity “does not restrict crane certifying bodies from certifying according to capacity should they so choose” (ID-1611). Another commenter suggested OSHA revise the proposed language to require certification “by type and/or type and capacity” (ID-1828).

OSHA has decided to retain the proposed “type, or type and capacity” language for paragraph (d)(1)(ii)(B) because it makes it clear that the agency will accept certifications that are otherwise compliant with the standard from any of the four accredited certification bodies of which OSHA is aware. OSHA does not believe that including this language will lead to confusion in the industry because, currently, certifications are offered by type or type and capacity. None of the comments recommending the removal of certification expressed any confusion about including this language.⁵

⁷ OSHA received one comment asking the agency to make the audited employer program “more feasible,” by “expand[ing] its definition of ‘auditor’ so that more accredited auditing organizations are available as resources to meet the requirements of this option,” even asking OSHA to designate staff to audit employer programs (ID-1647). The commenter asserted that OSHA’s standard requires an audited employer program to use tests developed by an accredited crane operator testing organization and to obtain

Second, the revision does not include the reference in previous § 1926.1427(b)(2) to an employee being “deemed qualified” to operate equipment under certain conditions if no accredited testing organization offers certification examinations for a specific type of equipment. A credentialing organization suggested that OSHA “remove misconceptions regarding what it means to be ‘certified’” by replacing “deemed certified” with “deemed to have complied with the certification requirements of this section” because it is “more precise while remaining entirely consistent with the language currently proposed by OSHA” (ID-1668). OSHA agrees with the commenter and is revising the regulatory text to adopt their suggested language. This change is intended to avoid the misconception that an operator could be considered competent to safely operate equipment without also being evaluated and determined competent by the operator’s employer.⁶

All other provisions in paragraph (d) are unchanged from previous paragraph (b), and discussion and justification of these provisions can be found in the preamble to the 2010 final cranes rule (75 FR 48017).

approval from an auditor certified by an accredited crane operator testing organization to evaluate these tests. The commenter stated that this creates “a conflict of interest for the crane operator testing organization to the detriment of the audited employer program option. As long as all auditing must go through one of these three organizations, there is little incentive for them to approve or audit an employer program since such auditing would remove certification candidates from their own programs” (ID-1647).

⁷ OSHA received one comment asking the agency to make the audited employer program “more feasible,” by “expand[ing] its definition of ‘auditor’ so that more accredited auditing organizations are available as resources to meet the requirements of this option,” even asking OSHA to designate staff to audit employer programs (ID-1647). The commenter asserted that OSHA’s standard requires an audited employer program to use tests developed by an accredited crane operator testing organization and to obtain approval from an auditor certified by an accredited crane operator testing organization to evaluate these tests. The commenter stated that this creates “a conflict of interest for the crane operator testing organization to the detriment of the audited employer program option. As long as all auditing must go through one of these three organizations, there is little incentive for them to approve or audit an employer program since such auditing would remove certification candidates from their own programs” (ID-1647).

A labor union commented that paragraph (d)(2) should be revised to establish a benchmark for the types of cranes for which a separate certification is required. They argue that without a benchmark, OSHA will be “effectively delegating to an accredited testing organizations responsibility for determining the number of types of cranes for which a separate certification is required” This concerns the organization because “for-profit testing organizations, which benefit financially from an increased number of mandatory certifications, have an incentive to develop testing for additional types of crane, regardless of whether extra testing will improve safety” (ID-1719). They propose that operators of equipment for which there is no certification must still be certified on the equipment most similar to the equipment they will operate, but only if a national consensus standard does not recommend a separate certification for the equipment. In explaining their reliance on national consensus standards for making this determination, they point to the National Commission for the Certification of Crane Operator’s (NCCCCO) Crane Type Advisory Group, a group that has yet to publish a standard but is considering “the skill sets required to operate various types of cranes for which separate certifications are not offered and a comparison of those skill sets to determine if they are already encompassed in existing testing (ID-1719).

OSHA explained its rationale in the preamble of the 2010 cranes rule for including similar language in previous § 1926.1427(b)(2). When OSHA was informed that there were not certification tests for a number of cranes, it decided to add “flexibility in the certification requirement to deal with specialized types of cranes or newly developed equipment for which certification examinations might not be available.” (75 FR 48018). To do this, OSHA applied C-DAC’s proposed requirement for dedicated pile

drivers – that operators be certified on the equipment most similar to the equipment they operated if there was no available certification test for the equipment they operated.

OSHA has not adopted the recommendation of the labor union (ID-1719) because the agency does not believe it is in the best position to determine the various types of cranes for which certifications should be necessary. It would be unwise for OSHA to consider a major change to the standard before the NCCCO Crane Type Advisory Group concludes its work, which could include a consensus standard that identifies crane types that require a similar skillset and knowledge to operate.

OSHA requested comment on whether it should delete the requirement for operator recertification every five years, which was proposed as § 1427(d)(4). OSHA mostly received comments in support of retaining the recertification requirement. One certification organization was not convinced that retraining and re-evaluation are sufficient substitutes for recertification. The commenter contrasted the retraining and re-evaluation requirements with recertification, asserting that:

Recertification procedures of an accredited certification program are, by their nature, subject to standardized psychometric rigor and impartiality. By incorporating the rigorous test development and administration standards required by accrediting bodies, recertification requirements provide substantial benefits that are likely to enhance public confidence and improve safety at the worksite.

(ID-1755). Similarly, a different commenter warned:

Remanding the recertification process to the discretion of employers will result in inconsistencies in how operators are assessed on their continuing knowledge and skills as well as an increased risk of endangering the public. As operators move between employers, there will be confusion in the marketplace about skill levels, the potential need for costly retraining, and increased safety concerns.

(ID-1668). A consultant added that “[r]ecertifying by 3rd party is completely unbiased,” and focuses on new information that may not be conveyed during an evaluation (ID-

1764). Another commenter expressed concern about relying on retraining in lieu of recertification, arguing that “a training program does not indicate skill mastery or competency as measured against a defensible set of standards set through an industry-wide process” (ID-1150).

Many commenters agreed that recertification was necessary to continue establishing a baseline knowledge of crane operation (ID-1150, 1719, 1744, 1755, 1768, 1816, 1828). For example, one commenter stated certification is an ongoing process and recertification is necessary for an operator to maintain the knowledge and skills necessary for safe crane operation because “unused skills atrophy and there are ever-evolving technological changes in newly-manufactured cranes and periodic regulatory changes” (ID-1719). To this point, a certification body submitted comments that at least 3,755 certified operators have failed their recertification exams, operators that “[i]f OSHA were to delete the requirement for operator recertification every five years . . . would be legally able to continue operating cranes – even though an independent, third-party assessment would have determined them to lack the baseline competence to do so” (ID-1755).

Additionally, many of the comments supportive of keeping the recertification requirement pointed out accreditation organizations ANSI and NCCA require recertification as part of an accredited certification program (ID-1150, 1668, 1719, 1744, 1755, 1794, 1816, 1828). An affiliate of one of these organizations commented that ISO 17024, a consensus standard “recognized by several federal agencies as a requirement for credentialing organizations that offer certification,” requires recertification (ID-1150). Another comment noted that many states and localities also require recertification of crane operators (ID-1719).

Some supporters of the recertification requirement recommended that OSHA also require a set number of hours an operator must spend gaining experience with the crane prior to recertifying. One of these commenters explained that each certification body requires an operator to document 1,000 hours of “crane-related experience” in the five years prior to recertification and, accordingly, recommended that OSHA require operators attempting to recertify to meet this standard (ID-1816). During its 2010 rulemaking, OSHA considered and rejected a nearly identical request for seat-hour-requirements (75 FR 48019).

The record amply demonstrates the sufficiency of the accreditation process that must be passed for a testing organization to become accredited. That process is designed to ensure that accredited testing organizations use a sufficiently reliable process for certifying operators. The record also shows that such a mechanism is an effective one for determining operator competence There is insufficient information in the record to include an additional requirement for 1,000 hours of “crane related experience” The commenter does not specify what should be included in “crane related experience,” or why 1,000 hours would be the appropriate amount of such experience for this purpose.” (75 FR 48019). The commenter has not presented any new evidence to persuade OSHA to change its position. If all accrediting bodies did require the certification bodies they accredit to include a minimum amount of time for “crane related experience,” then the commenter would not need to ask OSHA to mandate that requirement. Even after nearly a decade following OSHA’s consideration of that point in the 2010 rulemaking, the prominent accrediting bodies that accredit the four major crane certification organizations have not imposed this approach. OSHA continues to rely on the accreditation process to

determine whether, based on analytics and careful scientific study of the issue, recertification requires a prescribed number of hours gaining experience with the equipment. If the accrediting bodies determine it is necessary, then they will presumably require the certification organizations to include it as part of their testing criteria. The agency believes there is insufficient evidence in the record to support such a new requirement, especially one that may be very onerous on crane operators who may not have the opportunity to gain 1,000 hours experience with the equipment.

Another commenter recommended language that would allow a minimum number of hours of crane experience to *substitute* for the practical recertification test, also citing the 1,000 hours of “industry experience” as a threshold accredited testing organizations accept in place of retaking the practical test (ID-1719). The commenter also cites state laws that require recertification, but those requirements vary vastly. For example, while California requires operators to recertify every five years and have 1,000 hours operating experience on the crane for which recertification is sought, Washington only requires that a certification be renewed to ensure operators maintain qualified operator status (ID-1719). Similarly, a different commenter opposed a recertification requirement because “if an operator has been operating safely for five years, there is no need to recertify” (ID-1615). The commenter continued, stating “most employers provide their operators with updates on new equipment and changes to government regulations” (ID-1615).

OSHA is not persuaded that merely gaining “industry experience” for a certain number of hours, without any true measure of the safety of operation during that period, or operating “safely” for five years, should replace a third-party validation of the operator’s knowledge, skills, and abilities. Besides the vagaries of “crane experience” and

“industry experience” already noted in response to the prior commenter, as well as the subjective nature of “operating safely,” OSHA notes the previously discussed comments from the certification organization about the importance of staying abreast of “ever-evolving technological changes in newly-manufactured cranes and periodic regulatory changes,” as well as the 3,755 certified operators who failed their recertification exams but would otherwise have been legally able to continue operating cranes (ID-1755). Even if “most” employers do actually provide their operators with updates on equipment and changes in regulations, it is not clear that the operators comprehend those changes, and it does not take into account the operators who are not fortunate enough to work for employers that provide these updates. The fact that an operator has logged 1,000 hours or five years in the cab of a crane, even without injury, does not mean that the operator is aware of technological and regulatory changes that have occurred during that period, that the operator has operated without near misses or other issues, or that the next hazard the operator faces will not result in injury.

Another commenter urged removal of the recertification requirement, stating that recertification is unnecessary because it is duplicative of the refresher training provided to crane operators at regular intervals in their industry (ID-1631). As OSHA explained in the 2010 rulemaking, “the rulemaking record shows that a training requirement alone is insufficient to ensure that crane operators have the requisite level of competence,” and cannot substitute for third-party validation of the operator’s comprehension of that training (75 FR 48013).

OSHA agrees with the comments submitted in support of retaining the recertification requirement. As the agency has previously concluded, certification is a

necessary component for safe crane operation. Recertification establishes a standardized, baseline knowledge of equipment operation for operators and indicates to an employer that a certified operator has at least a certain knowledge of how to operate a crane. Recertification helps to ensure that an operator does not lose this baseline knowledge over time. It also helps to ensure continuing education for certified operators so they are aware of any regulatory changes that impact their work. The agency believes there are some employers that would find it difficult to make sure their operators are up to date on changes to equipment and updates to regulations that affect their operation unless they had the ability to have their operators recertified. Therefore, OSHA is retaining the requirement for recertification as proposed.

Paragraph (e) Audited Employer Program.

The substantive content of paragraph (e) is the same as previous § 1926.1427(c). No public comments were received on the minor changes to this paragraph and it is promulgated as proposed. It sets out the parameters for a nonportable certification program administered by the employer and audited by a third party. The changes to the regulatory text for the audited employer program are the removal of the word “qualification” and the replacement of three cross references with updated references to their new locations in the revised standard.

OSHA has removed reference to “qualification” from the heading of the paragraph. It has been removed to avoid the misconception by some that the term signaled full competency, rather than its intended meaning as an equivalent to certification. The employer-audited program will continue to be an alternative to certification by an independent third party.

Three cross references have also been changed. First, the reference in previous § 1926.1427(c)(1)(i) to “paragraph (b)” was revised to “paragraph (d)” in the updated rule. Second, the reference in previous § 1926.1427(c)(1)(ii)(A) to “paragraph (b)” was revised to “paragraph (d).” Finally, the reference in previous § 1926.1427(c)(4) to “paragraphs (c)(1) and (2)” was revised to “paragraphs (e)(1) and (2).” OSHA did not receive any comments to the proposed changes to this paragraph.⁷

Finally, in § 1926.147(e)(5), OSHA explains what an employer must do in the event an auditor discovers a significant deficiency in an employer's operator qualification program. OSHA considers a significant deficiency anything that would result in an employer-audited program being noncompliant. For example, failure to meet requirements listed in § 1926.1427(e)(1)-(4) would result in a significant deficiency that would trigger the requirements in § 1926.1427(e)(5).

Paragraph (f) Evaluation.

⁷ OSHA received one comment asking the agency to make the audited employer program “more feasible,” by “expand[ing] its definition of ‘auditor’ so that more accredited auditing organizations are available as resources to meet the requirements of this option,” even asking OSHA to designate staff to audit employer programs (ID-1647). The commenter asserted that OSHA’s standard requires an audited employer program to use tests developed by an accredited crane operator testing organization and to obtain approval from an auditor certified by an accredited crane operator testing organization to evaluate these tests. The commenter stated that this creates “a conflict of interest for the crane operator testing organization to the detriment of the audited employer program option. As long as all auditing must go through one of these three organizations, there is little incentive for them to approve or audit an employer program since such auditing would remove certification candidates from their own programs” (ID-1647).

In the NPRM, OSHA explained that it was proposing only minimal changes to the audited-employer program provisions – the removal of “qualification” and the updating of cross-references – and requested comment on the “proposed variations from the existing § 1926.1427(c).” The comment discussed above is not responsive to that request because its suggestion is outside the scope of the proposed variations from existing § 1926.1427(c). Furthermore, OSHA proposed and finalized this requirement in the 2010 cranes standard based largely on C-DAC’s recommendation “that independent, third-party involvement was needed to ensure the reliability and integrity of any testing program.” (75 FR 48020). Relying on the written and practical tests developed by an accredited crane operating testing organization or an auditor’s approval that these tests meet industry recognized criteria ensures that operators certified under this section have the baseline knowledge of safe crane operation.

Paragraph (f) sets out specific requirements that employers must follow to conduct an operator evaluation, including evaluation criteria, minimum qualifications for the person conducting the evaluation, documentation, and re-evaluation requirements.

AGC of Texas (ID-1615), expressed concern that OSHA's proposed language would require too many evaluations:

As written this requirement is infeasible. Cranes have multiple configurations (counterweight, attachments, boom configurations etc.) as well as capacities based on these and the radius of any given lift. It is not possible to evaluate an operator on each potential configuration that could be encountered throughout the day. Set up/configuration will vary dependent on the work involved and will be job specific so this will vary from job to job. Rarely if ever would the required components for every possible configuration of any given crane be available on a job The (f) Evaluation section of the rule as written makes it nearly impossible for an employer to evaluate operators on each machine and it's [sic] many different capacities and configurations prior to any given lift in a timely and efficient manner.

OSHA understands the concern about an excessive number of evaluations, but the agency disagrees that its revised standard would require the frequency of evaluation suggested by the commenter. For example, the standard does not require operators to be evaluated on "every possible configuration of any given crane." Later in this preamble section OSHA provides additional guidance about when evaluations are required, and when they are not.

Associated General Contractors (AGC, ID 1801) expressed its preference for retaining the existing language in § 1926.1427(k). The Specialized Carriers & Rigging Association (SC&RA) agreed, asserting that "[t]here is no supporting evidence indicating employers are not fulfilling their obligations to train and evaluate their operators for the cranes to which they are assigned. As such, there is no need for further clarification,

requirements or language” (ID-1828). SC&RA went on to advocate for slightly different language (see the discussion of the ACCSH proposal in the next paragraphs).

As OSHA explained in the NPRM, the agency does not agree that the employer duty under prior § 1926.1427(k) provided sufficient direction to employers. That language was intended originally only as a temporary measure to preserve the pre-2010 status quo pending the application of the certification requirement and was drawn from the language in § 1926.20(b)(4) (“The employer shall permit only those employees qualified by training or experience to operate equipment and machinery”). Part of the genesis for the 2010 final rule was that OSHA had concerns about relying primarily on the general guidance in § 1926.20(b)(4) rather than more clearly defined measures specific to crane operators, noting that C-DAC had implicitly deemed it insufficient for operator safety by recommending a new standard.

The Coalition for Crane Operator Safety (ID-1744), a group of national labor, construction management, equipment manufacturers and distributors, insurance underwriters and accredited certification organizations, and two of its members writing separately (Specialized Carriers & Rigging Association, ID 1828 and William Smith, ID 1623), as well as the North America’s Building Trades Union (ID-1768), advocated for OSHA to adopt ACCSH-recommended language. ACCSH recommended that OSHA replace the entire evaluation requirement with an employer duty to “ensure that operators of equipment covered by this standard meet the definition of a qualified person in § 1926.1401 to operate the equipment safely.” These commenters did not respond, however, to OSHA’s explanation in the NPRM (83 FR 23556) that this approach would fail to accomplish the purpose of additional evaluation beyond certification. Relying on

the definition of a “qualified person,” which can be met in some cases solely through “possession of a . . . certificate,” would return the standard to the inadequate “certification only” approach that prompted the same commenters to urge OSHA to propose the permanent employer evaluation duty in the first place (ID-0670). Under this approach, an operator would become both certified and a “qualified person” through the completion of a certification test. Nor did the commenters respond to OSHA’s explanation that the ACCSH language fails to provide employers with “sufficient specifics to ensure operator competence,” including the “specific step[s]” that an employer must take to “qualify” operators.

AGC (ID-1801) offered alternative regulatory text that modified and combined paragraphs (f)(1)(i) and (ii) as follows:

(f) Evaluation. (1) Through an evaluation, the employer must ensure that each operator demonstrates the skills, knowledge, and ability necessary to operate the equipment safely for the assigned work or task.

While OSHA views this approach as more workable than relying on the definition of a “qualified person” because it retains the goals of the evaluation, the agency is concerned that this alternative still lacks the level of specificity necessary to provide effective guidance to employers.

One local chapter of a member of the Crane Safety Coalition, the International Union of Operating Engineers (IUOE Local 49) (ID-1719), provided a separate comment that included a different alternative that OSHA believes would be a better bridge between the ACCSH proposal and OSHA’s proposed text. In its comment, IUOE acknowledged OSHA’s prior rationale for rejecting the “qualified person” approach and responded with a combination of the ACCSH recommendation and OSHA’s proposed text:

(f) Evaluation. (1) Through an evaluation, the employer must ensure that each operator is qualified by a demonstration of: *** [(i) The skills, knowledge, and the ability to recognize and avert risk necessary to operate the equipment safely, including (ii) The ability to perform the hoisting activities required for assigned work, including]

This alternative is similar to the ACCSH recommendation because it still contains the requirement that the operator be qualified, but avoids OSHA’s concern about relying on the term “qualified person” with a requirement to ensure that “each operator is qualified by a demonstration of” OSHA is adopting this compromise language in the final rule because it incorporates part of the language recommended by ACCSH while still preserving the criteria that provides guidance to employers. OSHA notes that while “qualified” is not defined in the cranes standard, there is a definition of that term in § 1926.32 that applies generally to construction and that definition also equates the possession of a certificate with being “qualified.” OSHA is therefore adding a new paragraph § 1926.1427(f)(3) to clarify that the definition of “qualified” in § 1926.32 does not apply to § 1926.1427(f). Unlike the ACCSH recommendation that relied on the definition of “qualified person” in § 1401 for its substance, the use of “qualified by a demonstration of” does not necessitate a separate definition of “qualified” because the remainder of paragraph (f)(1) provides a functional definition.

IUOE’s alternative also eliminates the requirement to evaluate the operator’s “judgment” and as a result helps to address the following objection raised by AGC concerning the term (ID-1801):

First, the term is not used in any other OSHA standard or requirement that we are aware of. * * * Second, an operator’s proper judgement is almost impossible to discern during the evaluation process and there are a variety of factors that could impair an individual’s judgement which are unrelated to their assigned work and operational ability. Lastly, this could be a catch-all in the event of an incident as an operator’s judgement could always be cited as a factor.

The American Public Power Association shared similar concerns:

As a practical matter, employers will be evaluating operator judgement when the evaluation is taking place. However, we are concerned that the term “judgment” if contained in the Final Rule will lead to unintended consequences, especially in an enforcement context.

(ID-1779). The Associated General Contractors of Texas (AGC of Texas), commenting separately, suggested that OSHA replace judgment with “competence,” which would include the “authorization to take prompt corrective measures” (ID-1615).

In the earlier quotation of the IUOE text, “judgment” was replaced with “ability to recognize and avert risk.” OSHA has adopted this change in the final rule. This approach focuses on one part of the definition of judgment previously identified by OSHA. In the NPRM, OSHA explained that “judgment” referred to not only an operator’s ability to apply the knowledge and skill that he or she possess, but also “an operator’s ability to recognize risky or unusual conditions that call for additional action such as re-evaluating a lift plan, stopping work, or asking for the help of another competent and/or qualified person” (83 FR 23550). OSHA had also explained that the term “judgment” connotes the “successfully demonstrated ability” of a “qualified person,” as defined by OSHA’s standards in § 1926.1401, “to solve/resolve problems relating to the subject matter, the work, or the project” and the capability of a “competent person” to identify “previous and predictable hazards” (Id.). OSHA is implementing this language instead of referring to a “competent person” because that term is used elsewhere in the standard and for this purpose OSHA prefers the emphasis on the ability of an operator to identify and avert risk rather than focusing on his or her authority.

Adopting IUOE's more focused version of this component of the evaluation also addresses AGC's point that employers may have difficulty examining an operator's judgment on a wide variety of subjects during the evaluation process. During an evaluation, the operator must demonstrate his or her ability to recognize and avert risks.

For example when operating a floating crane, an experienced operator should recognize that a change in tidal ranges could affect the boom angles at which work must be performed, potentially affecting the safety of hoisting operations during particular times of day. Another example is when an operator appropriately recognizes that a different crane will be needed because the ground conditions at a particular jobsite prevent him or her from setting up the current crane at the only locations where picks with that crane would be safe. A knowledgeable operator would also know that even though the current crane can boom out sufficiently from an alternate set-up position, the weight of the loads will easily exceed that permitted by the load chart at that boom length and radius. Another crane will be needed for that job if the alternate set-up area must be used. Another example of an operator's ability to recognize and avert risk would be when an operator knows to consider the wind speed and direction when determining where on the jobsite air turbulence is likely and may torque broad loads, making them more unstable. An experienced operator can also demonstrate the ability to recognize and avert risk by engaging site authorities, such as the project manager, site supervisor, or project engineer, during the planning of the project's progression. It is then that the operator can recommend plans for utilizing the crane more efficiently and making safer picks, such as those that are in plain view, not adjacent to power lines, and not over people or other structures.

One commenter requested that OSHA replace the employer’s duty to “ensure” that the operator possesses the requisite skills, knowledge, and ability to recognize and avert risk with a simpler duty “to take reasonable measures to evaluate operators’ ability to operate equipment in a safe manner” (ID-1779). OSHA is not adopting this change for two reasons. First, OSHA views this reduced duty as an unnecessary and significant departure from OSHA’s common practice of requiring employers “to ensure” compliance with performance standards. OSHA notes, for example, that 29 CFR 1926.1400(f) includes a similar mandate in the scope of the cranes standard, requiring employers to establish, communicate, and enforce work rules “to ensure compliance with such provisions.” Similarly in § 1926.1402(c)(1), OSHA requires controlling entities to “ensure that ground preparations necessary to meet the requirements” of the standard are met. For crane assembly and disassembly near power lines, OSHA provides one compliance option in which employers must “ensure” that no part of the equipment, load line or load gets closer than 20 feet to a power line (§ 1926.1407(a)(2)).

Second, OSHA is concerned that the suggested language would be so vague as to potentially render the entire duty ineffective and unenforceable. Employers might, for example, perceive a requirement to “take reasonable measures to evaluate” operators as requiring no more than appointing an evaluator. Because OSHA has framed the evaluation requirement as a flexible performance measure as requested by stakeholders and commenters, it is particularly important that the employer have a duty to satisfy the performance requirement, not just take steps towards doing so.

For the reasons identified in the previous discussion, the revised rule retains the performance-based character of the previous evaluation requirements in §

1926.1427(k)(2)(i), but makes clear that the operator must possess the necessary skills and knowledge to operate “the equipment” safely, as well as the ability to recognize and avert risk in order to operate the equipment safely. Those skills, knowledge, and abilities must be relevant to the actual equipment that will be operated. While the specifications and characteristics of equipment and operations can be learned in a classroom setting, the application of equipment operation and hoisting techniques can only be fully learned from hands-on experience at worksites. For example, the operator must not only know what each control does and where it is located, but also be able to demonstrate how and when to use particular controls or operational aids.

OSHA is adding a new paragraph (f)(2), which was not in the proposal, in response to several commenters raising concerns about the process of evaluating experienced operators during the transition period as the new evaluation and documentation requirements in the final rule take effect. Several commenters (ID-1623 and ID-1828) suggested “grandfathering” (exempting) currently certified operators from the evaluation requirements. One of these commenters explained:

The challenge for the industry is that operators working for the same or several employers that have 15, 20, 25, even 30 years in the business and every crane that they have operated has not been documented. This is the impracticable and infeasible part of the rule where a Grandfather Clause may be required for all currently certified operators and any new operator entering the industry after the date of enforcement goes through a documentation process to move forward and make sense of the rule.

(ID-1828). While the comment focuses on the documentation aspect of the new rule (see later discussion of § 1926.1427(f)(6)), the comment also raises the question whether employers will need to re-evaluate every operator. Under the new language in § 1926.1427(f)(2), the answer is “no.” For operators already employed by an employer,

paragraph (f)(2) allows that employer to rely on its “previous assessments of the operator in lieu of conducting a new evaluation” of that operator. OSHA’s final rule does not require employers to make each existing operator re-sit for formal re-evaluations on all applicable equipment and perform different tasks when the employer has already previously assessed that operator prior to the effective date of the rule and determined that he or she is qualified to safely operate such equipment for certain tasks.

Several terms may require additional explanation. For the purposes of § 1926.1427(f)(2), an “operator” encompasses anyone who has been operating equipment covered by this subpart, including operators in training, such that the employer has had an opportunity to assess the operator’s performance on the relevant equipment and tasks and has determined the operator can safely perform on those equipment and tasks. The reference to “its previous assessments” is intended to ensure that the operator was previously assessed, even if that assessment was not previously documented in accordance with new § 1926.1427(f)(6), and that the operator’s employer (or its agent) conducted the assessment. The employer cannot rely on recommendations or evaluations from a previous employer. It is important that the employer have its own factual basis for its determination that the operator has the skills, knowledge, and ability to identify and avert risk necessary to operate particular equipment safely for particular tasks. But that factual basis does not require a previous formal evaluation by the employer’s current evaluator. For example, the current evaluator might not have observed an operator’s previous 25 years of work. In such a case, the employer would satisfy the requirements of paragraph (f)(2) if it noted that the operator had operated specified equipment safely

for that employer. OSHA has provided a corresponding exception in the documentation requirements of § 1926.1427(f)(6), which is discussed later in this preamble.

OSHA prefers this approach to any “grandfather” approach that would completely exempt existing operators from all evaluation. Such an exemption would not accomplish the purpose of providing a baseline of operator qualification against which an employer could compare future equipment and assignments to determine if they require new skills, knowledge, or the ability to identify and avert risks. Furthermore, completely exempting existing operators from all evaluation would not achieve a primary objective of the rulemaking: with respect to future assignments, there would be no employer duty to ensure that these operators have the skills, knowledge, and ability to safely operate assigned equipment for assigned tasks in a variety of contexts. Such an exemption would be a step backwards from the prior temporary employer duty in § 1926.1427(k), which did not provide any exemption for previously employed operators.

A “bare rental” company that rents cranes without an operator asked for clarification about its duties under OSHA’s standard:

Who will be responsible for signing off on the operator’s document of evaluation? As the owner of the crane that we rent it to a company, we do not know who they will select to operate the crane, and from a legal stand point we do not want to sign off on somebody we do not know.

(ID-1495). In that scenario, the crane rental company is not the employer of the operator and will not be on site or otherwise be controlling the operator. OSHA’s standard does not require that crane rental company to ensure that the operator of its crane is certified or evaluated. That would be the responsibility of the employer of the operator.

Paragraph (f)(6) requires the employer to document the evaluation of each operator and to ensure that the documentation is available at the worksite. OSHA, by

requiring this documentation to be available at the worksite in the NPRM, implied that the documentation must be maintained by the employer for the duration of the operator's employment. OSHA is adding language to this final rule that states explicitly the documentation must be maintained while the operator is employed by the employer. This language is similar to language in § 1926.1428(a)(3) requiring employers to maintain documentation of a signal person's evaluation while the signal person is employed by the employer.

This documentation requirement is also similar to documentation requirements in other OSHA standards that require competency evaluations, such as OSHA's powered industrial truck operator training requirements (§ 1910.178). The documentation under § 1926.1427(f)(6) must include: the operator's name, the evaluator's name, the date of the evaluation, and the make, model, and configuration of the equipment on which the operator was evaluated. But the documentation would not need to be in any particular format. Rather, employers would have the flexibility to capture this information using their own existing systems or create documentation that best meets the needs of their workplace. For example, employers could issue operator cards that include this information, keep records electronically in a database accessible at the worksite, develop logs for each piece of equipment, or use any other method that memorializes the mandatory information.

The documentation requirement will ensure accountability and direct the employer's attention to the critical aspects of operating the assigned equipment that must be considered during the evaluation. The documentation of the evaluation will record key baseline information that an employer can use to help make subsequent determinations

about whether the operator is competent to operate particular equipment on future projects. It will also provide a quick reference for site supervisors, lift directors, and any employee, such as a hoist crew member, whose safety is affected by crane operations. This information can help prevent any misunderstandings about, or mischaracterization of, an individual operator's established competency as determined by the employer, as in the *Deep South* fatal incident. There, an operator was assigned to operate a crane of a type for which he was certified, but the controls and operations were substantially different from those with which he was familiar. Had the employer conducted an evaluation and documented it rather than relying only on information specified on the operator's certification, this incident could have been prevented.

The agency's discussions with stakeholders indicated that information about operators is typically collected but not necessarily for regulatory compliance purposes. Many employers who spoke with OSHA during meetings and site visits explained that they maintain for their own purposes a log or record to track operator experiences, certifications, and performance evaluations. For example, at least two employers reported that they issue cards to evaluated and competent operators with information about those operators' qualifications. (Reports # 11, 18 of ID-0673). Others use written records to track operators' performance, training, or other criteria. (Reports # 1, 2, 3, 4 of ID-0673). And employers who own cranes and have long-term operators must provide lengthy and detailed operator information to their insurance providers.

Many subcontractors, too, are becoming accustomed to maintaining a written record of their operators' experience and evaluations. Some employers explained that, on multi-employer construction sites, subcontractors are often asked by general contractors,

insurers, or other employers on the site to provide documented information about their operators, such as certifications and verifications of training and “qualification” for the cranes operated. One crane rental company noted that it keeps records for each operator, and that this kind of information is often requested or required by customers. (Report # 6 of ID-0673). Another company told OSHA that it frequently provides written information about its operators to contractors, even when not requested. (Report # 26 of ID-0673). A contractor that sometimes works with subcontractors’ operators noted that it maintains an in-house database of those operators, site supervisors, and directors that it has encountered on projects, with evaluations and notes about their performance. (Report # 22 of ID-0673). Another company that employs operators as subcontractors keeps records of near misses involving its subcontractors, as well as documentation of operators that the company feels may not be qualified to operate equipment. (Report # 14 of ID-0673). Finally, OSHA notes that it is a common practice within the construction industry for operators to carry certification cards provided by the testing entities as proof of certification. The documentation requirement of this paragraph will be even more useful in communicating operator competency for employers who must consider crane safety on multi-employer worksites.

As previously discussed, paragraph (f) permits the employer to evaluate the operator on one crane and then make a determination that the operator is also competent to safely run other equipment that requires the same level of operating skills, crane knowledge, and ability to recognize and avert risk. This provision allows employers to document these determinations collectively. For example, if an employer with five cranes, possibly configured in slightly different ways, determines that an operator’s

evaluation on Crane #2 also demonstrates the operator's competency with respect to the other four cranes, the employer could use a single document to record the operator's competence to operate all five cranes. In fact, the documentation for the original evaluation could simply be amended to state that it is also applicable to identified equipment that does not require substantially different skills, knowledge, or abilities. However, when the operation of a crane requires a level of operating skills, knowledge, or abilities that is significantly different from the crane on which the operator was evaluated, a new evaluation must be carried out and documented. Varying the facts in the earlier example, if two of that employer's cranes include computer software to control safety devices and the three other cranes do not have such software but are otherwise similar, then an operator already evaluated on a crane without the software would need to be evaluated separately on the use of that software, with that evaluation also documented. However, the evaluation can be limited to only making determinations about the operator's ability to safely use the cranes that rely on computer systems.

Several commenters expressed concern that the documentation would take too much time and effort, particularly if employers are required to take time to separately evaluate and document each operator on each potential piece of equipment, safety device, operational aid, software, and the size and configuration of the equipment (see IDs 1611, 1615, 1623, 1801). One of these commenters asked OSHA not to require employers to document the make, model, and configuration of the equipment on which the operator was evaluated to "further reinforce" that operators are not required to be evaluated on every crane that their companies might use, or every possible configuration" (ID-1801).

These concerns are misplaced because, as OSHA explained earlier, the rule does not include any requirement that an operator must sit in the cab of each crane the company owns to be evaluated and documented as competent to run every make, model, or configuration of the employer's equipment. Moreover, when evaluations are required, the process of recording the specific information about the crane(s) in which the operator was evaluated (including the make, model, and configuration of the equipment) helps to *avoid* additional evaluations. The required documentation provides the baseline against which the employer can determine whether particular equipment used on future projects can be safely operated by that operator because it would not require substantially new skills, knowledge, or abilities. The make and model of the equipment provides a fixed reference point for the configuration and system of controls that are in particular machines as well as particular designs of safety devices and operational aids, etc. This information can be used in comparisons with other equipment that the operator may be assigned to operate on future projects. If employers do not preserve this information, it makes it more difficult for them to determine whether an operator requires a new evaluation to operate other equipment.

Another commenter acknowledged some uncertainty about the impact of the documentation on its members and acknowledged documentation as “good corporate practice” followed by its members, but nevertheless asked OSHA to remove the documentation requirement:

Our view is that record keeping for evaluations is a good organizational practice, but should be not be a driver in a safety standard as it may divert resources away from activities that improve safety. Documentation and record keeping should be reserved as good corporate practice and should not be a requirement of the rule. *
* * If documentation and record keeping are to remain a part of this rule, OSHA should ensure than small businesses, as qualified by SBREFA, are exempt in

order to reduce undue burden on business operations or detract from safe work practices.

(ID-1779). A different commenter stated that it would “make sense for an employer to track evaluations on operators, so they would know what cranes an employee has been evaluated to operate and to provide protection from liability,” but then claimed that OSHA’s documentation requirement is “purely punitive in nature” and “only benefits OSHA” That commenter, however, offered no alternative means of tracking other than documentation (ID-1615).

These comments support OSHA’s observation in the NPRM that many responsible employers already have systems in place to evaluate their operators and document that process; OSHA disagrees that the documentation is merely a “good corporate practice” that diverts resources from safety or a “punitive” measure that provides no benefit to the employer. First, as discussed above, the documentation is a critical means of tracking an operator’s baseline qualifications in order to avoid future evaluations. This documentation must be available at the worksite in the event there is some uncertainty about the operator’s qualifications. OSHA notes that “available at the worksite” includes accessing this information at the worksite via a computer or other electronic means. Second, because not all employers follow this “good corporate practice,” the documentation requirement will help to ensure compliance with the standard. OSHA notes that “available at the worksite” includes accessing this information at the worksite via a computer or other electronic means.

Several commenters supported the documentation requirement. One commenter described OSHA’s proposed documentation requirements as workable and providing sufficient flexibility to preserve existing employer practices:

ABC appreciates that this proposal does not create a new system of documentation, and instead leaves employers the flexibility to capture this information in a way that makes sense for their workplace. * * *ABC members already have advanced operator competency programs in place, which include their own system of documentation, and therefore, any requirement from OSHA to document this information in a standardized form would be duplicative and unnecessary.

(ID-1735). The National Roofing Contractors Association expressed support for the proposed rule, which included the documentation requirement, as “provid[ing] the necessary components to ensure the safety of NRCA members’ workers and others while not altering significantly current compliance burdens members are obligated to meet”

(ID-1619). The American Fuel & Petrochemical Manufacturers too supported the rule, stating that OSHA’s approach was “aligned with” their previous requests for documentation of the evaluations and making that documentation available at the worksite (ID-1628).

OSHA is retaining the documentation requirement for the reasons discussed above. The agency views the documentation as critical to identifying the baseline for future evaluations of operators, similar to how documentation of monthly or annual inspections required under § 1926.1412 is used by a competent person or qualified person during subsequent inspections as the basis for tracking potential issues with the equipment and making determinations about whether that equipment is suitable for planned tasks. OSHA has also concluded that the documentation requirement includes enough flexibility to address the concerns raised by commenters.

In addition, OSHA is modifying the text of paragraph (f)(6) to provide a corollary to the new provision in paragraph (f)(2)) that allows employers to provide initial documentation for operators that they are employing on the effective date of the rule,

based on prior evaluations of those operators by the employers---another evaluation of those operators is not required for initial compliance with paragraph (f)(2). Because paragraph (f)(6) requires the documentation of the “completion of the evaluation,” thereby implying that some evaluation has occurred, OSHA is adding language to that paragraph to clarify how employers following the new alternative approach in (f)(2) may satisfy the documentation requirement. In such cases, employers need only ensure that the documentation reflects the date of the employer’s determination of the operator’s ability to safely operate the “make, model and configuration of equipment on which the operator has previously demonstrated competency.” This documentation preserves the baseline measure for these operators against which their future crane operations can be measured. Again, the employer is only required to document the make, model, and configuration of the equipment on which the employer has previously assessed that operator. Employers are free to, but not required to, list all of the makes, models, and configurations of all of the equipment that the operator is permitted to operate. For example, the employer may document that the operator has previously demonstrated that he or she is qualified to operate Crane A, and then also record that, based on that qualification to operate Crane A, the operator is also qualified to perform the same tasks using the Cranes B, C, and D. In that example, the employer does not have to record the make and model of Cranes B, C, and D in order for the operator to operate them as long as it is clear which cranes are referenced.

Paragraph (h) - Language and Literacy Requirements.

Previous paragraph § 1926.1427(h) allowed operators to be certified in a language other than English, provided that the operator understands that language. Revised

paragraph (h) is nearly identical to previous paragraph (h) with one exception. The last sentence of paragraph (h)(2) has been reworded to clarify that an operator is permitted to operate equipment only when he or she is furnished materials that are necessary for safe operation of the equipment and required by subpart CC, such as operations manuals and load charts, in the language of the operator's certification. The reference to previous paragraph (b)(2) was not maintained in proposed (h)(2) because it is no longer needed.

Paragraph (h) continues to allow "tests" in languages understood by the operator. In revised paragraph (h), "tests" encompasses both the certification test and the employer's evaluation of the operator. Either or both may be in any language understood by the operator. The language of the operator's manual or other furnished materials required by the standard would only need to match the language of the certification.

Sections 1926.1436(q) - Derricks, 1926.1440(a) – Sideboom Cranes, and 1926.1441(a) Equipment with a Rated Hoisting/Lifting Capacity of 2,000 Pounds or Less.

As noted in the explanation for revised § 1926.1427(a)(2), OSHA had proposed to apply the employer evaluation requirements to the following group of equipment otherwise exempt from the requirements of § 1926.1427: derricks, sideboom cranes, and equipment with a rated hoisting/lifting capacity of 2,000 pounds or less. To accomplish the application of the evaluation requirements, OSHA had proposed revising § 1926.1436(q) (Derricks), § 1926.1440(a) (Sideboom Cranes), and § 1926.1441(a) (Equipment with a Rated Hoisting/Lifting Capacity of 2,000 Pounds or Less) to require employers to evaluate operators according to the requirements in revised § 1926.1427(f).

One commenter (ID-1611) opposed any new evaluation requirements for derricks absent substantial evidence that this additional measure, which includes a requirement to

document the evaluations, is warranted. In the 2010 final rule, OSHA relied on C-DAC's recommendation to exclude digger derricks, sideboom cranes, and low-capacity cranes (hoisting capacity at or below one ton) from the certification requirements of the standard and also went further in excluding this group of equipment from all of the requirements of § 1427, including the phase-in requirement for employer assessment of operators in § 1427(k). Instead, OSHA required employers to "train each operator ... on the safe operation of equipment the individual will operate" (derricks and low-capacity cranes; see § 1436(q) and § 1441(e)) or comply with the operator qualification provisions of ASME B30.14–2004 (sideboom cranes, see § 1440(c)(10)). In the NPRM of this rule, OSHA also clarified that sideboom cranes would need to comply with the training requirements in § 1430 (*see* proposed § 1926.1427(a)(2)).

In light of the concern about an unwarranted burden on employers raised by the commenter and the fact that OSHA had not previously explained its exclusion of this group of equipment from the phase-in assessment requirements in § 1427(k), OSHA has decided not to change the status quo that has existed for the last eight years with respect to this group of equipment. OSHA still requires employers to train operators of this equipment in accordance with the requirements of this standard. The agency therefore is not requiring employers to comply with the evaluation or documentation requirements in § 1926.1427(f) when their operators use derricks, sideboom cranes, or low-capacity cranes. As a result, operators of this group of equipment do not have to comply with any of the provisions of § 1926.1427, so it is not necessary to revise §§ 1926.1436(q),

1926.1440(a), or 1926.1441(a) as proposed because those paragraphs already state that compliance with § 1926.1427 is not required.⁸

IV. B. Final Economic Analysis

Introduction

When it issued the final crane rule in 2010, OSHA prepared a final economic analysis (2010 FEA) as required by the OSH Act (29 U.S.C. 651 et seq.) and Executive Order 12866 (58 FR 51735 (Sept. 30, 1993)). OSHA also published a Final Regulatory Flexibility Analysis as required by the Regulatory Flexibility Act (5 U.S.C. 601-612). Both the 2010 FEA and Regulatory Flexibility Analysis are in Docket ID 422. On September 26, 2014, the agency included a separate FEA when it published a final rule extending until November 10, 2017, both the deadline for all crane operators to become certified, and the employer duty to ensure operator competency (79 FR 57785). In November 2017, OSHA published another extension for an additional year, until November 10, 2018 (82 FR 51986), which closely tracks the 2014 FEA analysis. For each rulemaking, OSHA published a preliminary economic analysis (PEA) and received public comment on the analysis before publishing the final analysis.

In the NPRM for the current rulemaking, OSHA included a PEA that relied on some of those earlier estimates, extensive agency interviews with industry stakeholders,

⁸ Another commenter was concerned that OSHA was changing the scope of the existing exemption for “digger derricks,” which is a group of equipment used primarily for electric utility and telecommunications construction (ID-1779). This limited exemption, which is in § 1926.1400(c)(4), removes digger derricks from the entire cranes standard, but only to the extent that employers are using this equipment for work covered by OSHA’s electric utility standard for construction (Subpart V of 29 CFR part 1926) or telecommunications construction (29 CFR 1910.268). OSHA did not propose to change this exemption for digger derricks and is not altering the exemption in this final rule, so the new evaluation requirements in this final rule do not apply to operators of digger derricks exempted from the scope of the standard by § 1926.1400(c)(4).

crane incident data, and other documents in the rulemaking record. For example, the 2017 FEA for the deadline extension rule included a cost analysis of the employer evaluation to ensure operator competency. As a result, the cost estimates in the PEA in the current rulemaking were based on that analysis, which in turn is drawn from the 2014 FEA. Following the approach taken in the PEA, this Final Economic Analysis estimates new costs only for elements that have not previously been accounted for in either the 2010 final rule or in the deadline extensions. These are:

- Additional evaluations to ensure operator competency when there are changes not just in the type of crane (accounted for in the 2017 FEA) but also changes that would require new skills, knowledge, or ability to recognize and avert risk necessary to operate the equipment safely, including those specific to the use of equipment or its safety devices, operational aids, software, or the size or configuration of the equipment.
- The permanent status of the employer duty to assess competency. While the cost of employer's duty to assess operator competency was estimated in the 2017 rule, the duty to assess was assumed to phase out after the deadline had passed. This final rule makes this duty permanent, so these costs are included in this FEA.
- Documentation by employers. This rule now requires employers to document the successful completion of operator evaluations.
- Additional training required beyond the training necessary for certification.

Certain unit costs, such as the initial cost of operator certification and recertification every five years, are not re-analyzed in the FEA because they are unchanged by this rulemaking. The rule makes no changes that would impact the costs of certification by type of crane; OSHA simply allowed the existing operator certification deadline to be instituted as planned. The employer evaluation, which under the 2010 final crane rule (and the 2014 and 2017 extensions) was set to be phased out when certification took effect, remains in effect and is therefore a cost of the final rule. The unit costs of the employer evaluations were analyzed in the final rule of the deadline extension FEAs, and the agency relied on that analysis in calculating the ongoing evaluation costs in this FEA. In this FEA the agency has also updated wage rates to reflect the latest 2017 estimates that are from the same source as used in the PEA: Occupational Employment Statistics (OES), prepared by the U.S. Bureau of Labor Statistics. The PEA relied on 2016 wages because the 2017 data was not yet available in time for the preparation of the PEA.

One change in costs for this FEA beyond updating economic data was that the 2017 OES does not include the same occupation category for crane inspector (SOC 5353-1031 First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators) that was in the 2016 OES and that was used in the PEA. The agency instead proxies the 2017 mean hourly wage for this SOC category by adjusting the 2017 OES crane operator hourly wage by the percentage markup of the 2016 crane inspector hourly wage over the 2016 crane operator hourly wage (8%, $28.75/26.58$). The resulting estimated crane inspector hourly wage is \$28.97 (26.78×1.08). Including a benefit markup of 1.45 (but not including overhead), the full hourly wages of a crane operator and crane inspector are \$38.70 and \$41.86, respectively.

As noted earlier in the preamble, OSHA received a comment from the National Propane Gas Association (NPGA, ID - 1631), echoed by many others, questioning whether OSHA had accurately estimated the number of operators in the propane gas industry affected by the standard as follows:

OSHA states that there are approximately 117,130 crane operators subject to the proposal and an annual cost to the proposal of \$1,425,133. There is no indication that these estimates include the propane industry, which has about 40,000 propane field technicians who perform delivery and retrieval functions and, thus, would be subject to the third-party certification required by the proposal. * * * [T]he industry uses two types of cranes interchangeably to deliver or retrieve propane containers ... [so] propane field technicians would require two certifications; one for each type of crane.

(ID-1631).

OSHA has previously accounted for the propane gas industry. In its 2010 FEA, OSHA estimated that “each of the retail establishments has, on average, a truck-mounted crane that would be engaged occasionally in construction activity covered under the rule” (see 75 FR 48087). OSHA also estimated in 2010 that there were a total of 5,567 establishments in the propane industry (NAICS 454312, Liquefied Petroleum Gas Dealers). Therefore, with an average of one crane per establishment affected by the standard, there were 5,567 cranes affected by the standard (Id.). OSHA continued to rely on these numbers in the economic analyses accompanying the two extension rulemakings in 2014 and 2017, treating the number of establishments as a proxy for the number of propane crane operators requiring certification under the standard.⁹

⁹ The NPGA did not dispute OSHA’s estimates of the number of crane operators when it commented on the 2014 extension (ID-0487). In response to the 2017 extension, the NPGA only encouraged OSHA to “consider more recent cost estimates” but did not specify any new numbers (ID-0648).

To support its claim that OSHA has underestimated the rule's cost to the propane industry, NPGA pointed OSHA to a recent study of the consumer propane industry in 2015 prepared by the Propane Education & Research Council (PERC) (see ID 1631, Part 2). NPGA relies on that study in asserting that OSHA underestimated the number of establishments, and therefore operators, in the PEA for this rulemaking. Specifically, NPGA claims that a new 4-Digit NAICS code for "Fuel Dealers" (45431) encompasses relevant propane establishments that are covered by the cranes standard but were not accounted for in OSHA's previous analysis of NAICS 454312, Liquefied Petroleum Gas Dealers (Id.).

Based on NPGA's comment, OSHA believes that it may have previously underestimated the number of covered establishments and has decided to increase its estimate in this analysis. Because the PERC study does not identify which establishments in the "Fuel Dealers" NAICS code are actually propane delivery firms that might occasionally engage in construction activity, OSHA has conservatively revised the industry profile to include all 8,341 of the establishments in that more general NAICS code. However, OSHA believes that many of these 8,341 establishments may not be propane delivery firms that engage in construction activity. This revision adds 2,774 additional establishments to OSHA's previous estimate of 5,567 establishments in the PEA. Continuing OSHA's methodology of estimating one certified crane operator per establishment, OSHA is estimating that there are 8,341 crane operators in this industry that occasionally use a crane for construction activity.

The NPGA's analysis takes a different approach, disregarding OSHA's approach of estimating the number of operators engaged in construction work per establishment.

Instead, as quoted earlier, NPGA asserts that every operator possible—“about 40,000 propane field technicians who perform delivery and retrieval functions”—will use two different types of cranes, with each technician evidently requiring two different certifications under the theory that *each* technician uses *both types* of cranes for work covered by OSHA’s construction standard (ID-1631). Thus, NPGA asks OSHA to assume that every propane field technician in the industry operates two different cranes and does so in situations involving construction activity, and that propane gas employers are ignoring standard measures of economic efficiency by having all employees engage in all tasks.

OSHA disagrees with this approach. Propane field technician operators would fall under the crane rule in only one very specific and limited scenario: installation of new tanks (not replacement of existing tanks in kind) at a construction site. As the NPGA acknowledges, delivery occurs at a construction site “a far lower percentage of the time” than at non-construction sites and that OSHA’s cranes standard applies to only “a small percentage” of propane delivery work (ID-1631). Indeed, another stakeholder from the propane industry estimated that only “around 10 percent of new construction jobs (such as new homes in rural areas) annually will require propane delivery” (Report #19 of ID-0673, p. 76). NPGA has not indicated that conversion of existing homes to propane from other sources (thus requiring the delivery of a brand new tank) constitutes any significant percentage of their deliveries. OSHA therefore concludes that propane deliveries covered by OSHA’s construction standard constitute ten percent or less of propane employer activities.

OSHA notes that its conclusion is confirmed by a review of additional data. Using New Construction starts data from the US Census (at https://www.census.gov/construction/nrc/pdf/quarterly_starts_completions.pdf) the average number of construction starts (both single family and multi-unit) per year for the years 2015-2017 was 1,163,000. If 10% of the new construction starts involve the installation of propane, then 116,300 deliveries subject to OSHA's standard would be required. The same research group that created the 2015 propane report that NPGA relied on in its comments also provided an estimate that "about 30,000 fuel oil households per year have converted to propane."¹⁰ Adding this to the new construction estimate above gives a total of 146,300 deliveries of new tanks per year, which, based on NPGA's estimate of 40,000 operators in the propane industry, results in an average of 3.66 jobs per propane operator per year (146,300/40,000).

Given that only operators engaged in construction activity must be certified under OSHA's standard, and that only a very small percentage of overall delivery activity constitutes construction activity covered by OSHA's standard, OSHA disagrees that all operators in this industry will require certification. While it is technically possible that every operator would go on two different jobs with two different cranes such that all would need two certifications, such an approach would ignore economic convention. As with specialized work in general, an economically rational employer will, in most cases, be able to assign a consistent operator to handle this small percentage of specialized activity rather than assuming the cost to have all of its employees prepared to engage in a

¹⁰ Sloan, Michael, *2016 Propane Market Outlook*, ICF International for the Propane Education and Research Council), p. 20, available at https://www.afdc.energy.gov/uploads/publication/2016_propane_market_outlook.pdf (visited 10/1/18).

small percentage of the employer's overall activity. OSHA therefore continues to estimate that each establishment on average will require one certified operator to handle the occasional delivery of tanks that would be covered by OSHA's construction rule.

OSHA's estimate is consistent with the information OSHA obtained during its interview with a propane distribution company that told OSHA it operates approximately 50 delivery centers in 11 states and maintains a fleet of 49 truck cranes (Id.), which is an average of almost one crane per delivery center. It is possible that a few establishments may require more than one certified operator due to special circumstances, but OSHA expects that number to be offset by the number of smaller establishments that would not be covered by OSHA's construction standard because they use equipment that is outside the scope of the standard (rated lifting capacity of less than 2,000 pounds). Such establishments would only engage in re-fueling existing tanks or replacing existing tanks in kind, or they only deliver new tanks to the ground at a construction site (see OSHA's June 27, 2016, response to Mr. Robert F. Helminiak, former Director of Regulatory Affairs for the National Propane Gas Association, that simply transferring propane tanks from the equipment directly to the ground is considered "delivery" and covered by applicable requirements of general industry standards, not construction standards. Included in NPGA's comments, ID-1631, Appendix b-3). Furthermore, OSHA believes that its adoption of the highest end of the potential number of establishments provides an adequate margin to account for differences between the one-operator-per-establishment estimate and the actual number of operators at each establishment who would be engaged in construction activity.

Due to these factors, the agency is not persuaded by the NPGA's economic analysis for either the number of operators or the cost of certification. OSHA has

increased the number of affected establishments (and thus affected operators) in this FEA for this industry, but not to the extent proposed by NPGA.

Evaluation costs

No commenter raised specific objections to the estimates used in the PEA for the costs of evaluation. Some comments suggested generally that OSHA's preliminary estimate of the number of evaluations was low, based on an apparent misunderstanding of the standard (see, e.g., ID 1623, 1801). For example, one commenter (ID-1801) was concerned that OSHA's requirement to document the make and model of crane on which an operator was evaluated meant that OSHA would require a separate evaluation for every single make and model of crane that a crane operator might use. This is not the case. While the employer must list the make and model of the crane that the operator was evaluated on, the employer can then rely on that evaluation as a baseline and allow the operator to use other cranes that do not require significant new skills, knowledge, or ability to identify and avert risk in order for the operator to operate the equipment safely. Another commenter (ID-1623) states that "One crane company alone testified [at an ACCSH meeting] that the cost to document all of his employees on every crane he owns, with each capacity, configuration and new additional requirements would cost him more than ONE MILLION dollars." The commenter did not provide any explanation or basis for that amount, and the agency does not find this plausible and suggests it is a misreading of the rule. OSHA's single evaluation cost is \$90.04, so to reach one million dollars in cost for a single employer, that employer would have to do 11,106 evaluations each year (1,000,000/ 90.04).

Employer evaluation documentation costs

The rule adds a new documentation requirement for a successful evaluation. In both the PEA and the FEA, OSHA estimated the annual evaluation documentation costs using the following three steps: It estimated unit costs of meeting this requirement; estimated the total number of cases of documentation that employers will need to perform in any given year; and multiplied unit costs of documentation by the number of cases to determine the annual costs.

This final rule requires that employers document information about the equipment that the operators is evaluated on (make, model, and configuration) and include the evaluator's signature. Because of this, the agency determined that the evaluator will complete all recordkeeping related to this documentation. OSHA's unit cost estimates for evaluation documentation take into account the time needed and the wage of the employee who completed the documentation. The time needed for creating and filing the needed information is estimated to be 5 minutes of the evaluator's time. As above, the hourly wage of the evaluator is estimated to be \$46.78. Hence, the cost of documenting a successful evaluation is \$3.90 $((5/60) \times \$46.78)$.

The revised standard does not require employers to re-evaluate operators who have already previously demonstrated that they have the skills, knowledge, and abilities to operate the employer's equipment safely. The employer may rely on previous assessments of these operators, but must still document their qualifications (see preamble discussion of § 1926.1427(f)(1)(iii) and (f)(4)). In the PEA, the agency preliminarily determined that employers would have documented most evaluations in the past, but estimated the number of past evaluations still needing documentation at 15 percent of the number of operators, or 17,570 $(15\% \times 117,130)$ (see 83 FR 23560). This approach

assumed that each employer would need to document employees evaluated within the year prior to effective date of the rule, but not all existing employees. To account for the one time need to document the evaluations for all existing employees, and not just those hired in the last year, OSHA is assuming all employees not hired in the last year (85 percent derived as 100 percent minus the 15 percent new in that year) would need to be documented. The FEA is thus raising the number of evaluations needing documentation to 85 percent of the number of operators, or 99,561 (85% x 117,130), thus taking account of the need to document past or ongoing evaluations of all employees.

With the addition of 2,774 propane field technician operators, the total number of evaluations needing documentation is estimated to be 102,335 (99,561 + 2,774) in this FEA. This estimate is based on the final rule's clarification that all evaluations of existing employees must be documented, but existing operators at the time the rule becomes effective do not need to be re-evaluated from scratch. This estimate assumes that all existing employees not subject to turnover or changes in equipment will need new documentation. This almost certainly overestimates the need for documentation because it ignores existing documentation practices, which OSHA's interviews with stakeholders indicate exist. This total extra first year cost is \$399,000 ($\$3.90 \times 102,335$). Annualized over 10 years at a 3 percent discount rate gives an annualized cost of \$47,000. At a discount rate of 7 percent, this annualized cost is \$57,000.

Employers are only required to document successful evaluations, and OSHA estimates that 15% of the operators will fail their evaluations. As noted above, OSHA estimates 15,857 initial evaluations and 2,379 new evaluations, for a total of 18,236 evaluations. With this 15% failure rate, only 15,857 evaluations would require

documentation (18,236/1.15). OSHA calculated that the total annual documentation cost, absent the first year extra documentation costs for existing, previously evaluated operators, is \$62,000 (\$3.90 per evaluation x 15,857 evaluations).

In the PEA, OSHA requested comment on its estimates of the documentation costs. While none of the commenters dispute any of the individual components of OSHA's documentation cost estimates, most of the same comments that expressed concern about costs because of an apparent confusion about the number of evaluations that would be required also raised the same concern about the number of documentations and resulting costs (ID-1623, 1801).

Additional Comments Sent in Response to Separate PRA FRN

When OSHA published its NPRM on May 21, 2018, it solicited comment on the information collections in the proposal (83 FR 23563). On July 30, 2018, the Agency published a second notice (83 FR 36507; OSHA Docket Number OSHA-2018-0009) reopening the comment period for only the proposed collection of information associated with the May 2018 NPRM. The purpose of the notice was to allow the public an additional 30-days to comment on the collection of information of the proposed rule. The Agency did not receive any comments prior to July 30 directly addressing the ICR. OSHA did, however, receive three comments in response to this second notice.

The first comment (OSHA-2018-0009-0003), from Mr. John Anderson expressed his concern that certification from an accredited crane agency creates an undue burden on small business. Mr. Anderson indicated his company "received a quote" for a 2-day certification course was just under \$100,000. He also seeks an exemption for small

articulating knuckle booms performing basic construction tasks. As noted above in Item 2, training and testing are not considered to be collections of information for this PRA analysis; therefore, no changes were made to the ICR as a result of the comment.

The second comment (OSHA-2018-0009-0004), from Mr. David Doherty of Cianbro Corporation indicated his support for certification “by type and/or type and capacity” and recertification. The commenter also expressed his opposition to a “prescriptive list” by which employers must evaluate their operators and to independent third-party evaluations. These comments relate to subjects that are not considered to be collection of information. Therefore, no changes were made to the ICR as a result of the comment.

The third comment (OSHA-2018-0009-0005) was received from the National Propane Gas Association (NPGA), which states, “the comment does not present methods to minimize the information collection burden insomuch that the position of NPGA detailed in this comment is that the information collection requirements should not be imposed on propane tank deliveries/retrievals” and “OSHA should conclude that the use of a crane to deliver and retrieve propane containers is outside the scope of the Cranes and Derricks in Construction regulation.” However, the Association also states, “the Supporting Statement fails to include the propane industry in the agency’s burden analysis report to OMB.”

The NPGA also submitted an extensive timely comment in response to the NPRM detailing the same concern and challenging some of OSHA’s estimates in its Preliminary Economic Analysis. In the Final Economic Analysis, the agency responded to the NPGA’s suggested alternatives by stating that OSHA “is not persuaded by the NPGA’s

economic analysis for either the number of operators or the cost of certification. OSHA has increased the number of affected establishments (and thus affected operators) in this industry for this FEA, but not to the extent the NPGA believes should be the case.”

Consistent with the final rule economic analysis, this ICR now incorporates new propane field technician operator respondents into the estimated ICR burdens and cost. Therefore, this comment, as it relates to estimated PRA respondents, did result in changes to the ICR.

NPGA also indicates, “the proposed information collection and the corresponding proposed rulemaking to amend the regulation, in particular the requirement for third-party certification of propane field technicians situated as construction crane operators, would impose significant financial and operational burdens on the propane industry and propane retail marketers in particular.” Other than the inclusion of the new respondents, the overall costs for operator certification recordkeeping in this ICR were not changed in response to this comment. As noted in Item 2 of this Supporting Statement, the third-party certification testing costs of the rule are not considered to be a collection of information in this ICR.

In addition, NPGA also expresses concern that the evaluation and reevaluation requirements of the final rule are not necessary because they are duplicative of the training and refresher training requirements currently required by the U.S. Department of Transportation. NPGA indicates that it detailed the current safety training and recordkeeping requirements of the U.S. Department of Transportation (DOT) in comments submitted to OSHA in response to the NPRM. As noted in Item 2 of this Supporting Statement, the evaluation, reevaluation and training, provisions of the final

rule are not considered to be collections of information in this ICR. In addition, OSHA would accept records kept for meeting any similar DOT obligations, provided the records satisfied all OSHA requirements. Therefore, no changes were made to the ICR as a result of this part of the comment.