connection with the processing of NRTL applications. Publishing the documentation in connection with the processing of NRTL applications would likely hamper OSHA efforts to conduct oversight of the NRTL Program during assessments. That oversight is in large measure dependent on the free flow of information between OSHA and the NRTL and an understanding that the parties can speak candidly about nonconformances with the aim of resolving them. If the documentation were freely available, NRTLs could be more cautious about openly discussing and acknowledging even minor nonconformances because of potential negative impacts on their reputations and businesses. For example, a NRTL client might misconstrue the significance of a nonconformance and terminate its relationship with the NRTL.

(3) Request for Publication of the Scope of NRTL Recognition for the Singapore Site

The commenter also requests that OSHA ''[p]ublish the complete proposed scope of recognition for the Singapore site—including all test standards—before the public comment period closes.'' This request reflects a misunderstanding of how OSHA recognizes NRTLs. OSHA does not maintain lists of test standards for which *individual sites* are recognized. Instead, a NRTL's scope of recognition is granted *to the NRTL as an entity.* As part of the recognition process, the NRTL must list the sites and test standards for which it seeks recognition, so ultimately OSHA's recognition consists of a recognition *of the NRTL* to operate at one or more recognized sites using one or more recognized test standards. Collectively, the NRTL must have the capability to conduct evaluation and testing to each of the test standards in its scope at any combination of its recognized sites. A NRTL's capability to conduct evaluation and testing at a particular recognized site may vary based on factors such as staffing at that site.

OSHA notes that ITSNA's current scope of recognition includes 34 recognized sites and 608 test standards. ITSNA's scope of recognition is available on OSHA's website, see *https://www.osha.gov/nationally-recognized-testing-laboratory-program/its.*

(4) Request for OSHA To Establish a New Ongoing Monitoring Protocol for the Singapore Site

Finally, the commenter requests that OSHA ''[e]stablish an ongoing monitoring protocol for the Singapore site—including periodic unannounced reviews—as a condition of continued recognition.'' This request is unnecessary because OSHA already has adequate applicable policies. The NRTL Program Directive contains policies and procedures for the conduct of Post-Recognition Assessments/Monitoring Visits at each recognized site ''at least once every two years'' (NRTL Program Directive, Ch. 2.XV.). The Directive also contains policies and procedures for the conduct of unscheduled assessments, including the authority for OSHA to conduct unscheduled assessments ''when warranted, at the OTPCA Director's discretion.'' (*Id.*). The commenter provides no evidence to suggest that these policies are inadequate or that the Singapore facility warrants additional assessments.

For the reasons described above, OSHA will take no further action regarding the comment and is now proceeding with this notice to grant expansion to ITSNA's scope of recognition.

To obtain or review copies of all public documents pertaining to the ITSNA expansion application, go to *www.regulations.gov* or contact the Docket Office (202) 693–2350 (TTY (877) 889–5627). Docket No. OSHA–2009–0025 contains all materials in the record containing ITSNA's recognition.

II. Final Decision and Order

OSHA staff examined ITSNA's expansion application, conducted a detailed on-site assessment, and examined other pertinent information. Based on review of this evidence, OSHA finds that ITSNA meets the requirements of 29 CFR 1910.7 for expansion of recognition, subject to the specified limitations and conditions. OSHA, therefore, is proceeding with this final notice to grant ITSNA's scope of recognition. OSHA limits the expansion of ITSNA's recognition to include the site in Singapore as listed above. OSHA's recognition of the site limits ITSNA to performing product testing and certifications only to the test standards for which the site has the proper capability and programs, and for test standards in ITSNA's scope of recognition. This limitation is consistent with the recognition that OSHA grants to other NRTLs that operate multiple sites.

A. Conditions

In addition to those conditions already required by 29 CFR 1910.7, ITSNA also must abide by the following conditions of the recognition:

1. ITSNA must inform OSHA as soon as possible, in writing, of any change of ownership, facilities, or key personnel, and of any major change in its operations as a NRTL, and provide details of the change(s);

2. ITSNA must meet all the terms of its recognition and comply with all OSHA policies pertaining to this recognition; and

3. ITSNA must continue to meet the requirements for recognition, including all previously published conditions on ITSNA's scope of recognition, in all areas for which it has recognition.

OSHA hereby expands the NRTL scope of recognition for ITSNA to include one additional test site in Singapore.

III. Authority and Signature

Amanda Laihow, Principal Deputy Assistant Secretary of Labor for Occupational Safety and Health, authorized the preparation of this notice. Accordingly, the agency is issuing this notice pursuant to 29 U.S.C. 657(g)(2), Secretary of Labor's Order No. 7–2025 (90 FR 27878, June 30, 2025), and 29 CFR 1910.7.

Signed at Washington, DC, on September 30, 2026.

Amanda Laihow,

Principal Deputy Assistant Secretary of Labor for Occupational Safety and Health.

[FR Doc. 2026–22017 Filed 10–28–26; 8:45 am]

BILLING CODE 4510–26–P

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

[Docket No. OSHA–2026–0001]

Obayashi—Jay Dee Joint Venture; Cemetery Brook Drain Tunnel Project; Grant of Permanent Variance

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Notice.

SUMMARY: In this notice, OSHA grants a permanent variance to Obayashi—Jay Dee Joint Venture (OJD) related to work in compressed air environments.

DATES: The permanent variance specified by this notice becomes effective on October 29, 2026 and shall remain in effect until the completion of the Cemetery Brook Drain Tunnel Project or until modified or revoked by OSHA.

FOR FURTHER INFORMATION CONTACT: Information regarding this notice is available from the following sources:

Press inquiries: Contact Mr. Frank Meilinger, Director, OSHA Office of

Communications, U.S. Department of Labor; telephone: (202) 693–1000 ext. 18477; email: *meilinger.francis2@dol.gov.*

General and technical information: Contact Mr. Kevin Robinson, Director, Office of Technical Programs and Coordination Activities, Directorate of Technical Support and Emergency Management, Occupational Safety and Health Administration, U.S. Department of Labor; telephone:(202) 693–1000 ext. 11538; email: *robinson.kevin@dol.gov.*

SUPPLEMENTARY INFORMATION:

Copies of this ***Federal Register*** *notice.* Electronic copies of this **Federal Register** notice are available at *http://www.regulations.gov.* This **Federal Register** notice, as well as news releases and other relevant information, also are available at OSHA's web page at *http://www.osha.gov.*

I. Overview

On June 30, 2025, Obayashi—Jay Dee Joint Venture (OJD or the applicant), submitted under Section 6(d) of the Occupational Safety and Health Act of 1970 (the Act), 29 U.S.C. 655, and 29 CFR 1905.11 (variances and other relief under Section 6(d)) an application for a permanent variance from several provisions of the OSHA standard that regulates work in compressed air, 1926.803 of 1926 Subpart S—Underground Construction, Caissons, Cofferdams, and Compressed Air, and an interim order allowing it to proceed while OSHA considers the request for a permanent variance (OSHA–2026–0001–0002). This notice addresses OJD's application for a permanent variance and interim order for construction of the Cemetery Brook Drain Tunnel Project in Manchester, New Hampshire, only and is not applicable to future OJD tunneling projects.

Specifically, this notice addresses Obayashi—Jay Dee's application for a permanent variance and interim order from the provisions of the standard that: (1) require the use of the decompression values specified in decompression tables in Appendix A of subpart S (29 CFR 1926.803(f)(1)); and (2) require the use of automated operational controls and a special decompression chamber (29 CFR 1926.803(g)(1)(iii) and (xvii), respectively).

OSHA reviewed Obayashi—Jay Dee's application for the variance and interim order and determined that they were appropriately submitted in compliance with the applicable variance procedures in Section 6(d) of the Occupational Safety and Health Act of 1970 (OSH Act; 29 U.S.C. 655) and OSHA's regulations at 29 CFR 1905.11 (Variances and other relief under section 6(d)), including the requirement that the applicant inform workers and their representatives of their rights to petition the Assistant Secretary of Labor for Occupational Safety and Health for a hearing on the variance application.

OSHA also reviewed the alternative procedures in Obayashi—Jay Dee's application and preliminarily determined that the applicant's proposed alternatives, on the whole, subject to the conditions in the request and imposed by the interim order, provide measures that are as safe and healthful as those required by the cited OSHA standards. On May 29, 2026, OSHA published a **Federal Register** notice announcing Obayashi—Jay Dee's application for permanent variance, stating the preliminary determination along with the basis of that determination, and granting the interim order (91 FR 32095). OSHA requested comments on each.

OSHA did not receive any comments or other information disputing the preliminary determination that the alternatives were at least as safe as OSHA's standard, nor any objections to OSHA granting a permanent variance. Accordingly, through this notice OSHA grants a permanent variance, subject to the conditions set out in this document.

A. Background

The information that follows about Obayashi—Jay Dee, its methods, and the Cemetery Brook Drain Tunnel Project comes from the Obayashi—Jay Dee variance application.

Obayashi—Jay Dee is a contractor for the Cemetery Brook Drain Tunnel Project (the project), that works on complex tunnel projects using innovations in tunnel-excavation methods. The applicant's workers engage in the construction of tunnels using advanced shielded mechanical excavation techniques in conjunction with an earth pressure balanced micro-tunnel boring machine (TBM). Using shielded mechanical excavation techniques, in conjunction with precast concrete tunnel liners and backfill grout, TBMs provide methods to achieve the face pressures required to maintain a stabilized tunnel face through various geologies and isolate that pressure to the forward section (the working chamber) of the TBM.

Obayashi—Jay Dee asserts that it bores tunnels using a TBM at levels below the water table through soft soils consisting of clay, silt, and sand. TBMs are capable of maintaining pressure at the tunnel face, and stabilizing existing geological conditions, through the controlled use of a mechanically driven cutter head, bulkheads within the shield, ground-treatment foam, and a screw conveyor that moves excavated material from the working chamber. The forward-most portion of the TBM is the main chamber, and this chamber is the only pressurized segment of the TBM.

The main chamber (airlock) is a double compartment chamber (inner lock and outer lock). The inner lock is the primary work area and the outer lock is used for personnel transfer only. A door separates the inner and outer locks, allowing personnel to transfer from one pressure zone to another. This configuration allows workers to access the main chamber for compression and decompression, and medical personnel to access the main chamber if required in an emergency.

Obayashi—Jay Dee Hyperbaric Operations Manual (HOM) for the Cemetery Brook Drain Project indicates that the maximum pressure to which it is likely to expose workers during project interventions for the tunnel drives is 37 pounds per square inch gauge (p.s.i.g.). The applicant will pressurize the working chamber to the level required to maintain a stable tunnel face, which for this project Obayashi—Jay Dee estimates will be up to a pressure not exceeding 37 p.s.i.g., which does not exceed the maximum pressure specified by the OSHA standard at 29 CFR 1926.803(e)(5).[1] Obayashi—Jay Dee is not seeking a variance from this provision of the compressed-air standard.

Obayashi—Jay Dee employs specially trained personnel for the construction of the tunnel. To keep the machinery working effectively, Obayashi—Jay Dee asserts that these workers must periodically enter the excavation working chamber of the TBM to perform hyperbaric interventions during which workers would be exposed to air pressures up to 37 p.s.i.g, which does not exceed the maximum pressure specified by the existing OSHA standard at 29 CFR 1926.803(e)(5). These interventions consist of conducting inspections or maintenance work on the cutter-head structure and cutting tools of the TBM, such as changing replaceable cutting tools and disposable wear bars, and, in rare cases, repairing structural damage to the cutter head. These interventions are the only time that workers are exposed to compressed air. Interventions in the excavation working chamber (the pressurized

[1] The decompression tables in Appendix A of subpart S express the working pressures as pounds per square inch gauge (p.s.i.g.). Therefore, throughout this notice, OSHA expresses the p.s.i. value specified by 29 CFR 1926.803(e)(5) as p.s.i.g., consistent with the terminology in Appendix A, Table 1 of subpart S.

portion of the TBM) take place only after halting tunnel excavation and preparing the machine and crew for an intervention.

During interventions, workers access the working chamber by first passing through the outer lock. They then pass through a door to enter the inner lock, which includes the primary decompression area. The working chamber is designed to accommodate three people, which is the maximum crew size allowed under the permanent variance. When the crew is engaged in decompression activities, there is no other work performed on the working face.

Obayashi—Jay Dee asserts that these innovations in tunnel excavation have greatly reduced worker exposure to hazards of pressurized air work because they have eliminated the need to pressurize the entire tunnel for the project and thereby reduce the number of workers exposed, as well as the total duration of exposure, to hyperbaric pressure during tunnel construction. These advances in technology have substantially modified the methods used by the construction industry to excavate subaqueous tunnels compared to the caisson work regulated by the current OSHA compressed-air standard for construction at 29 CFR 1926.803.

In addition to the reduced exposures resulting from the innovations in tunnel-excavation methods, Obayashi—Jay Dee asserts that innovations in hyperbaric medicine and technology improve the safety of decompression from hyperbaric exposures. These procedures, however, deviate from the decompression process that OSHA requires for construction in 29 CFR 1926.803(f)(1) and the decompression tables in Appendix A of 29 CFR 1926, subpart S. Nevertheless, according to Obayashi—Jay Dee, their use of decompression protocols incorporating oxygen is more efficient, effective, and safer for tunnel workers than compliance with the decompression tables specified by the existing OSHA standard.

Obayashi—Jay Dee contends that the alternative safety measures included in the application provide Obayashi—Jay Dee's workers with a place of employment that is at least as safe as they would be under OSHA's compressed-air standard for construction. OJD also provided OSHA a project-specific HOM (OSHA–2026–0001–0003) for the Cemetery Brook Drain Tunnel Project that requires specialized medical support and hyperbaric supervision to provide assistance to a team of specially trained airlock attendants and hyperbaric or compressed-air workers to support their assertions of equivalency in worker protection.

OSHA included all the above information in the **Federal Register** notice announcing Obayashi—Jay Dee's variance application and did not receive any comments disputing any of that information, including the safety assertions made by Obayashi—Jay Dee in the variance application.

II. The Variance Application

Pursuant to the requirements of OSHA's variance regulations (29 CFR 1905.11), the applicant has certified that it notified its affected workers [2] of the variance application and request for interim order by posting, at prominent locations where it normally posts workplace notices, a summary of the application and information specifying where the workers can examine a copy of the application. In addition, the applicant has certified that it informed its workers of their right to petition the Assistant Secretary of Labor for Occupational Safety and Health for a hearing on the variance application.

III. OSHA History of Approval of Nearly Identical Variance Requests

OSHA has previously approved several nearly identical variances involving the same types of tunneling equipment used for similar projects (tunnel construction variances). OSHA notes that it granted several subaqueous tunnel construction permanent variances from the same provisions of OSHA's compressed-air standard (29 CFR 1926.803(e)(5), (f)(1), (g)(1)(iii), and (g)(1)(xvii)) that are the subject of the present application: (1) Impregilo, Healy, Parsons, Joint Venture (IHP JV) for the Anacostia River Tunnel in Washington, DC (80 FR 50652, August 20, 2015); (2) Traylor JV for the Blue Plains Tunnel in Washington, DC (80 FR 16440, March 27, 2015); (3) Tully/OHL USA Joint Venture for the New York Economic Development Corporation's New York Siphon Tunnel project (79 FR 29809, May 23, 2014); (4) Salini-Impregilo/Healy Joint Venture for the Northeast Boundary Tunnel in Washington, DC (85 FR 27767, May 11, 2020); (5) McNally/Kiewit SST for the Shoreline Storage Tunnel in Cleveland, Ohio (88 FR 15080, March 10, 2023); (6) Traylor Shea Joint Venture for the Alexandria RiverRenew Tunnel Project in Alexandria, Virginia and Washington, DC (88 FR 15090, March 10, 2023); (7) Traylor-Sundt Joint Venture, for the Integrated Pipeline Tunnel Project in Dallas, Texas (88 FR 83152, November 28, 2023); (8) Ballard Marine Construction for the Bay Park Conveyance Tunnel Project in Nassau County, New York (89 FR 8442, February 7, 2024); (9) Ballard Marine Construction for the Lower Olentangy Tunnel Project in Columbus, Ohio (89 FR 78906, September 26, 2024); and (10) McNally/ASI Marine for the Southerly Tunnel and Consolidation Project in Cleveland, Ohio (90 FR 60752, December 29, 2025). OSHA also granted an interim order to Ballard Marine Construction for the Suffolk County, New York Outfall Tunnel Project (86 FR 5253, January 19, 2021). The proposed alternate conditions in this notice are nearly identical to the alternate conditions of the previous permanent variances.[3] OSHA is not aware of any injuries or other safety issues that arose from work performed under these conditions in accordance with the previous variances.

IV. Applicable OSHA Standard and the Relevant Variance

A. Variance From Paragraph (f)(1) of 29 CFR 1926.803, Requirement To Use OSHA Decompression Tables

OSHA's compressed-air standard for construction requires decompression in accordance with the decompression tables in Appendix A of 29 CFR 1926, subpart S (see 29 CFR 1926.803(f)(1)). As an alternative to the OSHA decompression tables, the applicant proposes to use newer decompression schedules (the 1992 French Decompression Tables) that rely on staged decompression and supplement breathing air used during decompression with air or oxygen (as appropriate).[4] The applicant asserts decompression protocols using the 1992 French Decompression Tables for air or oxygen as specified by the Cemetery Tunnel Drain Project-specific HOM are safer for tunnel workers than the decompression protocols specified in

[2] See the definition of ''Affected employee or worker'' in section VII.C of this Notice.

[3] The previous tunnel construction variances allowed further deviation from OSHA standards by permitting employee exposures above 50 p.s.i.g., based on the composition of the soil and the amount of water that will be above the tunnel for various sections of this project. The current permanent variance includes substantively the same safeguards as the variances that OSHA granted previously even though employees will not be exposed to pressures higher than 37 p.s.i.g.

[4] In 1992, the French Ministry of Labour replaced the 1974 French Decompression Tables with the 1992 French Decompression Tables, which differ from OSHA's decompression tables in Appendix A by using: (1) staged decompression as opposed to continuous (linear) decompression; (2) decompression tables based on air or both air and pure oxygen; and (3) emergency tables when unexpected exposure times occur (up to 30 minutes above the maximum allowed working time).

Appendix A of 29 CFR 1926 Subpart S. Accordingly, the applicant commits to following the decompression procedures described in that HOM, which requires Obayashi—Jay Dee to follow the 1992 French Decompression Tables to decompress compressed air workers (CAWs) after they exit the hyperbaric conditions in the working chamber.

Depending on the maximum working pressure and exposure times, the 1992 French Decompression Tables provide for air decompression with or without oxygen. Obayashi—Jay Dee asserts that oxygen decompression has many benefits, including (1) keeping the partial pressure of nitrogen in the lungs as low as possible; (2) keeping external pressure as low as possible to reduce the formation of gas bubbles in the blood; (3) removing nitrogen from the lungs and arterial blood and increasing the rate of nitrogen elimination; (4) improving the quality of breathing during decompression stops so that workers are less tired and to prevent bone necrosis; (5) reducing decompression time by approximately 33 percent as compared to air decompression; and (6) reducing inflammation.

In addition, the project-specific HOM requires a physician, certified in hyperbaric medicine, to manage the medical condition of CAWs during hyperbaric exposures and decompression. A trained and experienced airlock attendant is also required to be present during hyperbaric exposures and decompression. This airlock attendant is to operate the hyperbaric system to ensure compliance with the specified decompression table. A hyperbaric supervisor, who is trained in hyperbaric operations, procedures, and safety, directly oversees all hyperbaric interventions, and ensures that staff follow the procedures delineated in the HOM or by the attending physician.

B. Variance From Paragraph (g)(1)(iii) of 29 CFR 1926.803, Automatically Regulated Continuous Decompression

Obayashi—Jay Dee seeks a permanent variance from the OSHA standard at 29 CFR 1926.803(g)(1)(iii), which requires automatic controls to regulate decompression. As noted above, the applicant is conducting the staged decompression according to the 1992 French Decompression Tables under the direct control of the trained airlock attendant and under the oversight of the hyperbaric supervisor.

Breathing air under hyperbaric conditions increases the amount of nitrogen gas dissolved in a CAW's tissues. The greater the hyperbaric pressure under these conditions and the more time spent under the increased pressure, the greater the amount of nitrogen gas is dissolved in the tissues. When the pressure decreases during decompression, tissues release the dissolved nitrogen gas into the blood system, which then carries the nitrogen gas to the lungs for elimination through exhalation. Releasing hyperbaric pressure too rapidly during decompression can increase the size of the bubbles formed by nitrogen gas in the blood system, resulting in decompression illness (DCI), commonly referred to as ''the bends.'' This description of the etiology of DCI is consistent with current scientific theory and research on the issue.

The 1992 French Decompression Tables, proposed for use by the applicant, provide for stops during worker decompression (*i.e.,* staged decompression) to control the release of nitrogen gas from tissues into the blood system. Studies show that staged decompression, in combination with other features of the 1992 French Decompression Tables such as the use of oxygen, result in a lower incidence of DCI than the use of automatically regulated continuous decompression.[5] In addition, the applicant asserts that staged decompression administered in accordance with its HOM is at least as effective as an automatic controller in regulating the decompression process because the HOM requires a hyperbaric supervisor who directly supervises all hyperbaric interventions and ensures that the airlock attendant, who is a competent person in the manual control of hyperbaric systems, follows the schedule specified in the decompression tables, including stops.

C. Variance From Paragraph (g)(1)(xvii) of 29 CFR 1926.803, Requirement of Special Decompression Chamber

The OSHA compressed-air standard for construction requires employers to use a special decompression chamber of sufficient size to accommodate all CAWs being decompressed at the end of the shift when total decompression time exceeds 75 minutes (see 29 CFR 1926.803(g)(1)(xvii)). Use of the special decompression chamber enables CAWs to move about and flex their joints to prevent neuromuscular problems during decompression.

Space limitations in the TBM do not allow for the installation and use of an additional special decompression lock or chamber. The applicant proposes that it be permitted to rely on the airlocks (inner lock and outer lock) in lieu of adding a separate, special decompression chamber. Because only a few workers out of the entire crew are exposed to hyperbaric pressure, the airlocks (which, as noted earlier, connect directly to the working chamber) are of sufficient size to accommodate all of the exposed workers during decompression. The applicant uses the existing airlocks, each of which adequately accommodates a three-member crew for this purpose, when decompression lasts up to 75 minutes. When decompression exceeds 75 minutes, the main chamber permits the crew to stand and extend their extremities. In the event of an emergency or requirement to conduct decompression outside of the main chamber, the applicant will have both a medical and shuttle chamber onsite during tunneling operations, both of which are double compartment chambers equipped to support hyperbaric medical treatment. The shuttle chamber supports limited hyperbaric medical treatment while the medical lock supports full medical treatment. The medical and shuttle chambers will be on standby during hyperbaric and post-hyperbaric interventions in the event there is a requirement to treat personnel suffering with decompression illness. The shuttle chamber shall be stationed within the tunnel as close as possible to the main chamber. Workers will have the ability to exit the main chamber (during decompression stops) and move into the shuttle chamber under the strict planning and supervision of the hyperbaric supervisor and hyperbaric physician. The shuttle chamber will

[5] See, *e.g.,* Dr. Eric Kindwall, EP (1997), Compressed air tunneling and caisson work decompression procedures: development, problems, and solutions. *Undersea and Hyperbaric Medicine,* 24(4), pp. 337–345. This article reported 60 treated cases of DCI among 4,168 exposures between 19 and 31 p.s.i.g. over a 51-week contract period, for a DCI incidence of 1.44% for the decompression tables specified by the OSHA standard. Dr. Kindwall notes that the use of automatically regulated continuous decompression in the Washington State safety standards for compressed-air work (from which OSHA derived its decompression tables) was at the insistence of contractors and the union, and against the advice of the expert who calculated the decompression table and recommended using staged decompression. Dr. Kindwall then states, ''Continuous decompression is inefficient and wasteful. For example, if the last stage from 4 p.s.i.g. . . . to the surface took 1h, at least half the time is spent at pressures less than 2 p.s.i.g. . . ., which provides less and less meaningful bubble suppression . . . .'' In addition, Dr. Kindwall addresses the continuous-decompression protocol in the OSHA compressed-air standard for construction, noting that ''[a]side from the tables for saturation diving to deep depths, no other widely used or officially approved diving decompression tables use straight line, continuous decompressions at varying rates. Stage decompression is usually the rule, since it is simpler to control.''

have the ability to additionally lock onto the on-site medical lock as needed and as directed by the hyperbaric physician. For hyperbaric treatment purposes, both the shuttle and medical chambers will enable CAWs to move about and flex their joints and receive treatment as required. The applicant asserts that this alternative arrangement is as effective as a special decompression chamber in that it has sufficient space for all the CAWs at the end of a shift and enables the CAWs to move about and flex their joints to prevent neuromuscular problems.

V. Decision

After reviewing the proposed alternatives, OSHA has determined that the applicant's proposed alternatives, on the whole, subject to the conditions in the request and imposed by this permanent variance, provide measures that are as safe and healthful as those required by the cited OSHA standards addressed in section IV of this notice.

In addition, OSHA has determined that each of the following alternatives are at least as effective as the specified OSHA requirements:

A. 29 CFR 1926.803(f)(1)

The applicant has proposed to implement equally effective alternative measures to the requirement in 29 CFR 1926.803(f)(1) for compliance with OSHA's decompression tables. The HOM specifies the procedures and personnel qualifications for performing work safely during the compression and decompression phases of interventions. The HOM also specifies the decompression tables the applicant proposes to use (the 1992 French Decompression Tables). Depending on the maximum working pressure and exposure times during the interventions, the tables provide for decompression using air, pure oxygen, or a combination of air and oxygen. The decompression tables also include delays or stops for various time intervals at different pressure levels during the transition to atmospheric pressure (*i.e.,* staged decompression). In all cases, a physician certified in hyperbaric medicine will manage the medical condition of CAWs during decompression. In addition, a trained and experienced airlock attendant, experienced in recognizing decompression sickness or illnesses and injuries, will be present. Of key importance, a hyperbaric supervisor, trained in hyperbaric operations, procedures, and safety, will directly supervise all hyperbaric operations to ensure compliance with the procedures delineated in the project-specific HOM or by the attending physician.

Prior to granting the previous permanent variances to Traylor JV, IHP JV, Tully/OHL JV, Salini-Impregilo/Healy JV, McNally/Kiewit SST JV, Traylor Shea JV, McNally/ASI Marine and Ballard Marine Bay Park Tunnel New York, OSHA conducted a review of the scientific literature and concluded that the alternative decompression method (*i.e.,* the 1992 French Decompression Tables) Obayashi—Jay Dee proposed would be at least as safe as the decompression tables specified by OSHA when applied by trained medical personnel under the conditions imposed by the permanent variance.

Some of the literature indicates that the alternative decompression method may be safer, concluding that decompression performed in accordance with these tables resulted in a lower occurrence of DCI than decompression conducted in accordance with the decompression tables specified by the standard. For example, H. L. Andersen studied the occurrence of DCI at maximum hyperbaric pressures ranging from 4 p.s.i.g. to 43 p.s.i.g. during construction of the Great Belt Tunnel in Denmark (1992–1996).[6] This project used the 1992 French Decompression Tables to decompress the workers during part of the construction. Andersen observed 6 DCI cases out of 7,220 decompression events and reported that switching to the 1992 French Decompression tables reduced the DCI incidence to 0.08% compared to a previous incidence rate of 0.14%. The DCI incidence in the study by H. L. Andersen is substantially less than the DCI incidence reported for the decompression tables specified in Appendix A.

OSHA found no studies in which the DCI incidence reported for the 1992 French Decompression Tables were higher than the DCI incidence reported for the OSHA decompression tables.[7]

OSHA's experience with the previous ten variances, which all incorporated nearly identical decompression plans and did not result in safety issues, also provides evidence that the alternative procedure as a whole is at least as effective for this type of tunneling project as compliance with OSHA's decompression tables. The experience of State Plans[8] that granted variances (Nevada, Oregon and Washington)[9] or promulgated a new standard (California)[10] for hyperbaric exposures occurring during similar subaqueous tunnel-construction work provide additional evidence of the effectiveness of this alternative procedure.

B. 29 CFR 1926.803(g)(1)(iii)

The applicant developed, and proposed to implement, an equally effective alternative to 29 CFR 1926.803(g)(1)(iii), which requires the use of automatic controllers that continuously decrease pressure to achieve decompression in accordance with the tables specified by the standard. The applicant's alternative includes using the 1992 French Decompression Tables for guiding staged decompression to achieve lower occurrences of DCI, using a trained and competent attendant for implementing appropriate hyperbaric entry and exit procedures, and providing a competent hyperbaric supervisor and attending physician certified in hyperbaric medicine to oversee all hyperbaric operations.

In reaching this conclusion, OSHA again notes the experience of previous nearly identical tunneling variances, the experiences of States with OSHA-approved State Plans, and a review of the literature and other information noted earlier.

C. 29 CFR 1926.803(g)(1)(xvii)

The applicant developed, and proposed to implement, an effective alternative to the use of the special decompression chamber required by 29 CFR 1926.803(g)(1)(xvii). The TBM's airlocks (inner and outer locks) appear to satisfy all of the conditions of the special decompression chamber, including that they provide sufficient space for the maximum crew of three CAWs to stand up and move around, and safely accommodate decompression

[6] Andersen HL (2002). Decompression sickness during construction of the Great Belt tunnel, Denmark. *Undersea and Hyperbaric Medicine, 29(3),* pp. 173–188.

[7] Le Péchon JC, Barre P, Baud JP, Ollivier F (September 1996). Compressed air work—French Tables 1992—operational results. *JCLP Hyperbarie Paris, Centre Medical Subaquatique Interentreprise, Marseille: Communication a l'EUBS,* pp. 1–5 (see Ex. OSHA–2012–0036–0005).

[8] In Section 18 of the OSH Act, Congress expressly provides that States and U.S. territories may adopt, with Federal approval, a plan for the development and enforcement of occupational safety and health standards. OSHA refers to States and territories which have developed and are operating their own job safety and health programs as ''States with OSHA-approved State Plans.'' Their programs must be at least as effective in providing safe and healthful employment and places of employment as the Federal standards (29 U.S.C. 667).

[9] These state variances are available in the docket for the 2015 Traylor JV variance: Exs. OSHA–2012–0035–0006 (Nevada), OSHA–2012–0035–0005 (Oregon), and OSHA–2012–0035–0004 (Washington).

[10] See California Code of Regulations, Title 8, Subchapter 7, Group 26, Article 154, available at *http://www.dir.ca.gov/title8/sb7g26a154.html.*

times up to 360 minutes. Therefore, again noting OSHA's previous experience with nearly identical variances including the same alternative, OSHA preliminarily determined that the TBM's airlocks (inner and outer locks) function as effectively as the special decompression chamber required by the standard.

Based on a review of available evidence, the experience of State Plans that granted variances (Nevada, Oregon, and Washington) [11] or promulgated a new standard (California) [12] for hyperbaric exposures occurring during similar subaqueous tunnel-construction work, and the information provided in the applicant's variance application, OSHA is granting the permanent variance.

Pursuant to Section 6(d) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(d)), and based on the record discussed above, the agency finds that when Obayashi—Jay Dee complies with the conditions of the following order, the working conditions of the workers are at least as safe and healthful as if Obayashi—Jay Dee complied with the working conditions specified by paragraphs (f)(1), (g)(1)(iii), and (g)(1)(xvii) of 29 CFR 1926.803. Therefore, Obayashi—Jay Dee must: (1) comply with the conditions listed below under ''Conditions Specified for the Permanent Variance'' for the period between the date of this notice and completion of the Cemetery Brook Drain Tunnel Project; (2) comply fully with all other applicable provisions of 29 CFR part 1926; and (3) provide a copy of this **Federal Register** notice to all employees affected by the conditions, including the affected employees of other employers, using the same means it used to inform these employees of the application for a permanent variance. Additionally, this order will remain in effect until one of the following conditions occurs: (1) completion of the Cemetery Brook Drain Tunnel Project; or (2) OSHA modifies or revokes this final order in accordance with 29 CFR 1905.13.

VI. Description of the Specified Conditions for the Permanent Variance

The conditions for the variance are set out in the Order at the end of this document. This section provides additional detail regarding the conditions in the Order.

[11] These state variances are available in the docket: Exs. OSHA–2012–0035–0006 (Nevada), OSHA–2012–0035–0007 (Oregon), and OSHA–2012–0035–0008 (Washington).

[12] See California Code of Regulations, Title 8, Subchapter 7, Group 26, Article 154, available at *http://www.dir.ca.gov/title8/sb7g26a154.html.*

Condition A: Scope

The scope of the permanent variance limits coverage to the work situations specified. Clearly defining the scope of the permanent variance provides Obayashi—Jay Dee, their employees, potential future applicants, other stakeholders, the public, and OSHA with necessary information regarding the work situations in which the permanent variance applies. To the extent that Obayashi—Jay Dee exceeds the defined scope of this variance, it will be required to comply with OSHA's standards. This permanent variance applies only to the applicant, Obayashi—Jay Dee, and only to the remainder of construction work on the Cemetery Brook Drain Tunnel Project.

Condition B: List of Abbreviations

Condition B defines abbreviations used in the permanent variance. OSHA believes that defining these abbreviations serves to clarify and standardize their usage, thereby enhancing the applicant's and its employees' understanding of the conditions specified by the permanent variance.

Condition C: Definitions

The condition defines a series of terms, mostly technical terms, used in the permanent variance to standardize and clarify their meaning. OSHA believes that defining these terms serves to enhance the applicant's and its employees' understanding of the conditions specified by the permanent variance.

Condition D: Safety and Health Practices

This condition requires the applicant to develop and submit to OSHA a HOM specific to the Cemetery Brook Drain Tunnel Project at least six months before using the TBM for tunneling operations. The applicant must also submit, at least six months before using the TBM, proof that the TBM's hyperbaric chambers have been designed, fabricated, inspected, tested, marked, and stamped in accordance with the requirements of the most recent edition of ASME PVHO–1 (*Safety Standards for Pressure Vessels for Human Occupancy*). These requirements ensure that the applicant develops hyperbaric safety and health procedures suitable for the project.

The submission of the HOM enables OSHA to determine whether the safety and health instructions and measures it specifies are appropriate to the field conditions of the tunnel (including expected geological conditions), conform to the conditions of the variance, and adequately protect the safety and health of the CAWs. It also facilitates OSHA's ability to ensure that the applicant is complying with these instructions and measures. The requirement for proof of compliance with ASME PVHO–1 is intended to ensure that the equipment is structurally sound and capable of performing to protect the safety of the employees exposed to hyperbaric pressure. The applicant has submitted the HOM and proof of compliance with the most recent edition of ASME PVHO–1.

Additionally, the condition includes a series of related hazard prevention and control requirements and methods (*e.g.,* decompression tables, job hazard analyses (JHA), operations and inspections checklists, incident investigation, and recording and notification to OSHA of recordable hyperbaric injuries and illnesses) designed to ensure the continued effective functioning of the hyperbaric equipment and operating system.

Condition E: Communication

This condition requires the applicant to develop and implement an effective system of information sharing and communication. Effective information sharing and communication are intended to ensure that affected workers receive updated information regarding any safety-related hazards and incidents, and corrective actions taken, prior to the start of each shift. The condition also requires the applicant to ensure that reliable means of emergency communications are available and maintained for affected workers and support personnel during hyperbaric operations. Availability of such reliable means of communications enables affected workers and support personnel to respond quickly and effectively to hazardous conditions or emergencies that may develop during TBM operations.

Condition F: Worker Qualification and Training

This condition requires the applicant to develop and implement an effective qualification and training program for affected workers. The condition specifies the factors that an affected worker must know to perform safely during hyperbaric operations, including how to enter, work in, and exit from hyperbaric conditions under both normal and emergency conditions. Having well-trained and qualified workers performing hyperbaric intervention work is intended to ensure that they recognize, and respond appropriately to, hyperbaric safety and

health hazards. These qualification and training requirements enable affected workers to cope effectively with emergencies, as well as the discomfort and physiological effects of hyperbaric exposure, thereby preventing worker injury, illness, and fatalities.

Paragraph (2)(e) of this condition requires the applicant to provide affected workers with information they can use to contact the appropriate healthcare professionals if the workers believe they are developing hyperbaric-related health effects. This requirement provides for early intervention and treatment of DCI and other health effects resulting from hyperbaric exposure, thereby reducing the potential severity of these effects.

Condition G: Inspections, Tests, and Accident Prevention

Condition G requires the applicant to develop, implement, and operate a program of frequent and regular inspections of the TBM's hyperbaric equipment and support systems, and associated work areas. This condition helps to ensure the safe operation and physical integrity of the equipment and work areas necessary to conduct hyperbaric operations. The condition also enhances worker safety by reducing the risk of hyperbaric-related emergencies.

Paragraph (3) of this condition requires the applicant to document tests, inspections, corrective actions, and repairs involving the TBM, and maintain these documents at the jobsite for the duration of the job. This requirement provides the applicant with information needed to schedule tests and inspections to ensure the continued safe operation of the equipment and systems, and to determine that the actions taken to correct defects in hyperbaric equipment and systems were appropriate, prior to returning them to service.

Condition H: Compression and Decompression

This condition requires the applicant to consult with the designated medical advisor regarding special compression or decompression procedures appropriate for any unacclimated CAW and then implement the procedures recommended by the medical advisor. This provision ensures that the applicant consults with the medical advisor, and involves the medical advisor in the evaluation, development, and implementation of compression or decompression protocols appropriate for any CAW requiring acclimation to the hyperbaric conditions encountered during TBM operations. Accordingly, CAWs requiring acclimation have an opportunity to acclimate prior to exposure to these hyperbaric conditions. OSHA believes this condition will prevent or reduce adverse reactions among CAWs to the effects of compression or decompression associated with the intervention work they perform in the TBM.

Condition I: Recordkeeping

Under OSHA's recordkeeping requirements in 29 CFR part 1904 regarding Recording and Reporting Occupational Injuries and Illnesses, the employer must maintain a record of any recordable injury, illness, or fatality (as defined by 29 CFR part 1904) resulting from exposure of an employee to hyperbaric conditions, or any other work condition, by completing the OSHA Form 301 Incident Report and OSHA Form 300 Log of Work-Related Injuries and Illnesses. The applicant did not seek a variance from this standard and therefore Obayashi—Jay Dee must comply fully with those requirements.

Examples of important information to include on the OSHA Form 301 Injury and Illness Incident Report (along with the corresponding questions on the form) are:

Q14

- the task performed;
- the composition of the gas mixture (*e.g.,* air or oxygen);
- an estimate of the CAW's workload;
- the maximum working pressure;
- temperature in the work and decompression environments;
- unusual occurrences, if any, during the task or decompression

Q15

- time of symptom onset;
- duration between decompression and onset of symptoms

Q16

- type and duration of symptoms;
- a medical summary of the illness or injury

Q17

- duration of the hyperbaric intervention;
- possible contributing factors;
- the number of prior interventions completed by the injured or ill CAW; and the pressure to which the CAW was exposed during those interventions.[13]

Condition I adds additional reporting responsibilities, beyond those already required by the OSHA standard. The applicant is required to maintain records of specific factors associated with each hyperbaric intervention. The information gathered and recorded under Condition I, in concert with the information provided under Condition J (using OSHA Form 301 Injury and Illness Incident Report to investigate and record hyperbaric recordable injuries as defined by 29 CFR 1904.4, 1904.7, and 1904.8 –.12), enables the applicant and OSHA to assess the effectiveness of the permanent variance in preventing DCI and other hyperbaric-related effects.

Condition J: Notifications

Under the notifications condition, the applicant is required, within specified periods of time, to notify OSHA of: (1) any recordable injury, illness, in-patient hospitalization, amputation, loss of an eye, or fatality that occurs as a result of hyperbaric exposures during TBM operations; and in-patient hospitalization, amputation, loss of an eye or fatality that occurs during other operations must also be reported pursuant to 29 CFR 1910.39(a); (2) provide OSHA a copy of the hyperbaric exposures incident investigation report (using OSHA Form 301 Injury and Illness Incident Report) of these events within 24 hours of the incident; (3) include on OSHA Form 301 Injury and Illness Incident Report information on the hyperbaric conditions associated with the recordable injury or illness, the root-cause determination, and preventive and corrective actions identified and implemented; (4) provide the certification that affected workers were informed of the incident and the results of the incident investigation; (5) notify OSHA's Office of Technical Programs and Coordination Activities (OTPCA) and the Concord, New Hampshire OSHA Area Office within 15 working days should the applicant need to revise the HOM to accommodate changes in its compressed-air operations that affect Obayashi—Jay Dee's ability to comply with the conditions of the permanent variance; and (6) provide OTPCA and the Concord, New Hampshire OSHA Area Office at the end of the project, with a report evaluating the effectiveness of the decompression tables.

It should be noted that the requirement for completing and submitting the hyperbaric exposure-related (recordable) incident investigation report (OSHA 301 Injury and Illness Incident Report) is more restrictive than the current recordkeeping requirement of completing OSHA Form 301 Injury and

[13] See 29 CFR 1904 Recording and Reporting Occupational Injuries and Illnesses *(http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9631);* recordkeeping forms and instructions *https://www.osha.gov/recordkeeping/forms.*

Illness Incident Report within 7 calendar days of the incident (29 CFR 1904.29(b)(3)). This modified, more stringent incident investigation and reporting requirement is restricted to intervention-related hyperbaric (recordable) incidents only. Providing rapid notification to OSHA is essential because time is a critical element in OSHA's ability to determine the continued effectiveness of the variance conditions in preventing hyperbaric incidents, and the applicant's identification and implementation of appropriate corrective and preventive actions.

Further, these notification requirements also enable the applicant, its employees, and OSHA to assess the effectiveness of the permanent variance in providing the requisite level of safety to the applicant's workers and based on this assessment, whether to revise or revoke the conditions of the permanent variance. Timely notification permits OSHA to take whatever action may be necessary and appropriate to prevent possible further injuries and illnesses. Providing notification to employees informs them of the precautions taken by the applicant to prevent similar incidents in the future.

Additionally, this condition requires the applicant to notify OSHA if it ceases to do business, has a new address or location for the main office, or transfers the operations covered by the permanent variance to a successor company. In addition, the condition specifies that the transfer of the permanent variance to a successor company must be approved by OSHA. These requirements allow OSHA to communicate effectively with the applicant regarding the status of the permanent variance and expedite the agency's administration and enforcement of the permanent variance. Stipulating that the applicant is required to have OSHA's approval to transfer a variance to a successor company provides assurance that the successor company has knowledge of, and will comply with, the conditions specified by the permanent variance, thereby ensuring the safety of workers involved in performing the operations covered by the permanent variance.

VII. Order

As of the effective date of this final order, OSHA is revoking the interim order granted to the employer on May 29, 2026 (91 FR 32095) and replacing it with a permanent variance order.

OSHA issues this final order authorizing Obayashi—Jay Dee to comply with the following conditions instead of complying with the requirements of 29 CFR 1926.803 (f)(1), (g)(1)(iii), and (g)(1)(xvii). These conditions are:

A. Scope

The permanent variance applies only when Obayashi—Jay Dee stops the tunnel-boring work, pressurizes the working chamber, and the CAWs either enter the working chamber to perform an intervention (*i.e.,* inspect, maintain, or repair the mechanical-excavation components), or exit the working chamber after performing interventions.

The permanent variance applies only to work:

1. That occurs in conjunction with construction of the Cemetery Brook Drain Tunnel Project, a tunnel constructed using advanced shielded mechanical-excavation techniques and involving operation of a TBM;

2. In the TBM's forward section (the working chamber) and associated hyperbaric chambers used to pressurize and decompress employees entering and exiting the working chamber; and

3. Performed in compliance with all applicable provisions of 29 CFR part 1926 except for the requirements specified by 29 CFR 1926.803 (f)(1), (g)(1)(iii), and (g)(1)(xvii).

4. This order will remain in effect until one of the following conditions occurs: (1) completion of the Cemetery Brook Drain Tunnel Project; or (2) OSHA modifies or revokes this final order in accordance with 29 CFR 1905.13.

B. List of Abbreviations

Abbreviations used throughout this permanent variance include the following:

1. CAW—Compressed-air worker
2. CFR—Code of Federal Regulations
3. DCI—Decompression Illness
4. DMT—Diver Medical Technician
5. TBM—Earth Pressure Balanced Micro-Tunnel Boring Machine
6. HOM—Hyperbaric Operations Manual
7. JHA—Job hazard analysis
8. OJD—Obayashi—Jay Dee Joint Venture
9. OSHA—Occupational Safety and Health Administration
10. OTPCA—Office of Technical Programs and Coordination Activities

C. Definitions

The following definitions apply to this permanent variance, Obayashi—Jay Dee's project-specific HOM, and all work carried out under the conditions of this permanent variance.

1. *Affected employee or worker*—an employee or worker who is affected by the conditions of this permanent variance, or any one of his or her authorized representatives. The term ''employee'' has the meaning defined and used under the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*).

2. *Airlock*—A compartment/chamber with controlled pressure and parallel sets of doors to permit movement between areas at different pressures.

3. *Atmospheric pressure*—the pressure of air at sea level, generally 14.7 pounds per square inch absolute (p.s.i.a.), 1 atmosphere absolute, or 0 pounds per square inch gauge (p.s.i.g.).

4. *Compressed-air worker*—an individual who is specially trained and medically qualified to perform work in a pressurized environment while breathing air at pressures not exceeding 37 p.s.i.g.

5. *Competent person*—an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.[14]

6. *Decompression illness*—an illness (also called decompression sickness or ''the bends'') caused by gas bubbles appearing in body compartments due to a reduction in ambient pressure. Examples of symptoms of decompression illness include, but are not limited to: joint pain (also known as the ''bends'' for agonizing pain or the ''niggles'' for slight pain); areas of bone destruction (termed dysbaric osteonecrosis); skin disorders (such as cutis marmorata, which causes a pink marbling of the skin, or in people with darker skin tones, the rash will appear as a marbled or lacy dark brown or purplish color); spinal cord and brain disorders (such as stroke, paralysis, paresthesia, and bladder dysfunction); cardiopulmonary disorders, such as shortness of breath; and arterial gas embolism (gas bubbles in the arteries that block blood flow).[15]

Note: Health effects associated with hyperbaric intervention, but not considered symptoms of DCI, can include: barotrauma (direct damage to air-containing cavities in the body such as ears, sinuses, and lungs); nitrogen narcosis (reversible alteration in consciousness that may occur in hyperbaric environments and is caused by the anesthetic effect of certain gases at high pressure); and oxygen toxicity (a central nervous system

[14] Adapted from 29 CFR 1926.32(f).

[15] See Appendix 10 of ''A Guide to the Work in Compressed-Air Regulations 1996,'' published by the United Kingdom Health and Safety Executive available from NIOSH at *http://www.cdc.gov/niosh/docket/archive/pdfs/NIOSH-254/compReg1996.pdf.*

condition resulting from the harmful effects of breathing molecular oxygen (O_2) at elevated partial pressures).

7. *Diver Medical Technician*—Member of the dive team who is experienced in first aid.

8. *Earth Pressure Balanced Tunnel Boring Machine*—the machinery used to excavate a tunnel.

9. *Hot work*—any activity performed in a hazardous location that may introduce an ignition source into a potentially flammable atmosphere.[16]

10. *Hyperbaric*—at a higher pressure than atmospheric pressure.

11. *Hyperbaric intervention*—a term that describes the process of stopping the TBM and preparing and executing work under hyperbaric pressure in the working chamber for the purpose of inspecting, replacing, or repairing cutting tools and/or the cutterhead structure.

12. *Hyperbaric Operations Manual*—a detailed, project-specific health and safety plan developed and implemented by Obayashi—Jay Dee for working in compressed air during the Cemetery Brook Drain Tunnel Project.

13. *Inner Lock*—primary lock of the main chamber, provides access to the working chamber for performing work on the tunnel face or TBM repair.

14. *Job hazard analysis*—an evaluation of tasks or operations to identify potential hazards and to determine the necessary controls.

15. *Main Chamber*—The main compartment of the airlock.

16. *Medical Advisor*—medical professional experienced in the physical requirements of compressed air work and the treatment of decompression illness.

17. *Medical Lock*—A double compartment chamber equipped to support full hyperbaric medical treatment.

18. *Outer Lock*—The secondary lock of the main chamber, used for transferring occupants in and out of the inner lock.

19. *Pressure*—a force acting on a unit area. Usually expressed as pounds per square inch (p.s.i.).

20. *p.s.i.a.*—pounds per square inch absolute, or absolute pressure, is the sum of the atmospheric pressure and gauge pressure. At sea-level, atmospheric pressure is approximately 14.7 p.s.i.a. Adding 14.7 to a pressure expressed in units of p.s.i.g. will yield the absolute pressure, expressed as p.s.i.a.

21. *p.s.i.g.*—pounds per square inch gauge, a common unit of pressure; pressure expressed as p.s.i.g. corresponds to pressure relative to atmospheric pressure. At sea-level, atmospheric pressure is approximately 14.7 p.s.i.a. Subtracting 14.7 from a pressure expressed in units of p.s.i.a. yields the gauge pressure, expressed as p.s.i.g. At sea level the gauge pressure is 0 p.s.i.g.

22. *Qualified person*—an individual who, by possession of a recognized degree, certificate, or professional standing, or who, by extensive knowledge, training, and experience, successfully demonstrates an ability to solve or resolve problems relating to the subject matter, the work, or the project.[17]

23. *Shuttle lock*—a double compartment chamber equipped to support limited medical hyperbaric treatment.

24. *Working chamber*—an enclosed space in the TBM in which CAWs perform interventions, and which is accessible only through an airlock.

D. Safety and Health Practices

1. Obayashi—Jay Dee must implement the project-specific HOM submitted to OSHA as part of the application (see OSHA–2026–0001–0003). The HOM provides the minimum requirements regarding expected safety and health hazards (including anticipated geological conditions) and hyperbaric exposures during the tunnel-construction project.

2. Obayashi—Jay Dee must demonstrate that the TBM on the project is designed, fabricated, inspected, tested, marked, and stamped in accordance with the most recent requirements of ASME PVHO–1 (*Safety Standards for Pressure Vessels for Human Occupancy*) for the TBM's hyperbaric chambers.

3. Obayashi—Jay Dee must implement the safety and health instructions included in the manufacturer's operations manuals for the TBM, and the safety and health instructions provided by the manufacturer for the operation of decompression equipment.

4. Obayashi—Jay Dee must ensure that there are no exposures to pressures greater than 37 p.s.i.g.

5. Obayashi—Jay Dee must ensure that air or oxygen is the only breathing gas in the working chamber.

6. Obayashi—Jay Dee must follow the 1992 French Decompression Tables for air or oxygen decompression as specified in the HOM; specifically, the extracted portions of the 1992 French Decompression tables titled, ''French Regulation Air Standard Tables.''

7. Obayashi—Jay Dee must equip airlocks used by employees with an air or oxygen delivery system, as specified by the HOM for the project. Obayashi—Jay Dee is prohibited from storing in the tunnel any oxygen or other compressed gases used in conjunction with hyperbaric work.

8. Workers performing hot work under hyperbaric conditions must use flame-retardant personal protective equipment and clothing.

9. In hyperbaric work areas, Obayashi—Jay Dee must maintain an adequate fire-suppression system approved for hyperbaric work areas.

10. Obayashi—Jay Dee must develop and implement one or more job hazard analysis (JHA) for work in the hyperbaric work areas, and review, periodically and as necessary (*e.g.,* after making changes to a planned intervention that affects its operation), the contents of the JHAs with affected employees. The JHAs must include all the job functions that the risk assessment [18] indicates are essential to prevent injury or illness.

11. Obayashi—Jay Dee must develop a set of checklists to guide compressed-air work and ensure that employees follow the procedures required by the permanent variance (including all procedures required by the HOM approved by OSHA for the project, which this permanent variance incorporates by reference). The checklists must include all steps and equipment functions that the risk assessment indicates are essential to prevent injury or illness during compressed-air work.

12. Obayashi—Jay Dee must ensure that the safety and health provisions of this project-specific HOM adequately protect the workers of all contractors and subcontractors involved in hyperbaric operations for the project to which the HOM applies.[19]

E. Communication

1. Prior to beginning a shift, Obayashi—Jay Dee must implement a system that informs workers exposed to hyperbaric conditions of any hazardous occurrences or conditions that might affect their safety, including hyperbaric incidents, gas releases, equipment failures, earth or rockslides, cave-ins, flooding, fires, or explosions.

[16] Also see 29 CFR 1926.1202 for examples of hot work.

[17] Adapted from 29 CFR 1926.32(m).

[18] See ANSI/AIHA Z10–2012, American National Standard for Occupational Health and Safety Management Systems, for reference.

[19] See ANSI/ASSE A10.33–2011, American National Standard for Construction and Demolition Operations—Safety and Health Program Requirements for Multi-Employer Projects, for reference.

2. Obayashi—Jay Dee must provide a power-assisted means of communication among affected workers and support personnel in hyperbaric conditions where unassisted voice communication is inadequate.

(a) Obayashi—Jay Dee must use an independent power supply for powered communication systems, and these systems must operate such that use or disruption of any one phone or signal location will not disrupt the operation of the system from any other location.

(b) Obayashi—Jay Dee must test communication systems at the start of each shift and as necessary thereafter to ensure proper operation.

F. Worker Qualifications and Training

Obayashi—Jay Dee must:

1. Ensure that each affected worker receives effective training on how to safely enter, work in, exit from, and undertake emergency evacuation or rescue from, hyperbaric conditions, and document this training.

2. Provide effective instruction on hyperbaric conditions, before beginning hyperbaric operations, to each worker who performs work, or controls the exposure of others, and document this instruction. The instruction must include:

(a) The physics and physiology of hyperbaric work;

(b) Recognition of pressure-related injuries;

(c) Information on the causes and recognition of the signs and symptoms associated with decompression illness, and other hyperbaric intervention-related health effects (*e.g.,* barotrauma, nitrogen narcosis, and oxygen toxicity);

(d) How to avoid discomfort during compression and decompression;

(e) Information the workers can use to contact the appropriate healthcare professionals should the workers have concerns that they may be experiencing adverse health effects from hyperbaric exposure; and

(f) Procedures and requirements applicable to the employee in the project-specific HOM.

3. Repeat the instruction specified in paragraph (G) of this condition periodically and as necessary (*e.g.,* after making changes to its hyperbaric operations).

4. When conducting training for its hyperbaric workers, make this training available to OSHA personnel and notify the OTPCA at OSHA's national office and OSHA's Concord, New Hampshire Area Office before the training takes place.

G. Inspections, Tests, and Accident Prevention

1. Obayashi—Jay Dee must initiate and maintain a program of frequent and regular inspections of the TBM's hyperbaric equipment and support systems (such as temperature control, illumination, ventilation, and fire-prevention and fire-suppression systems), and hyperbaric work areas, as required under 29 CFR 1926.20(b)(2), including:

(a) Developing a set of checklists to be used by a competent person in conducting weekly inspections of hyperbaric equipment and work areas; and

(b) Ensuring that a competent person conducts daily visual checks and weekly inspections of the TBM.

2. Obayashi—Jay Dee must remove any equipment that is found to constitute a safety hazard until Obayashi—Jay Dee corrects the hazardous condition and has the correction approved by a qualified person.

3. Obayashi—Jay Dee must maintain records of all tests and inspections of the TBM, as well as associated corrective actions and repairs, at the job site for the duration of the tunneling project and for 90 days after the final project report is submitted to OSHA.

H. Compression and Decompression

Obayashi—Jay Dee must consult with its attending physician concerning the need for special compression or decompression exposures appropriate for CAWs not acclimated to hyperbaric exposure.

I. Recordkeeping

In addition to completing OSHA Form 301 Injury and Illness Incident Report and OSHA Form 300 Log of Work-Related Injuries and Illnesses, Obayashi—Jay Dee must maintain records of:

1. The date, times (*e.g.,* time compression started, time spent compressing, time performing intervention, time spent decompressing), and pressure for each hyperbaric intervention.

2. The names of all supervisors and DMTs involved for each intervention.

3. The name of each individual worker exposed to hyperbaric pressure and the decompression protocols and results for each worker.

4. The total number of interventions and the amount of hyperbaric work time at each pressure.

5. The results of the post-intervention physical assessment of each CAW for signs and symptoms of decompression illness, barotrauma, nitrogen narcosis, oxygen toxicity or other health effects associated with work in compressed air for each hyperbaric intervention.

J. Notifications

1. To assist OSHA in administering the conditions specified herein, Obayashi—Jay Dee must:

(a) Notify the OTPCA and the Concord, New Hampshire OSHA Area Office at *www.osha.gov/contactus/byoffice* of any recordable injury, illness, or fatality (by submitting the completed OSHA Form 301 Injury and Illness Incident Report) [20] resulting from exposure of an employee to hyperbaric conditions, including those that do not require recompression treatment (*e.g.,* nitrogen narcosis, oxygen toxicity, barotrauma), but still meet the recordable injury or illness criteria of 29 CFR 1904. The notification must be made within 8 hours of the incident or 8 hours after becoming aware of a recordable injury, illness, or fatality; a copy of the incident investigation (OSHA Form 301 Injuries and Illness Incident Report) must be submitted to OSHA within 24 hours of the incident or 24 hours after becoming aware of a recordable injury, illness, or fatality. In addition to the information required by OSHA Form 301 Injuries and Illness Incident Report, the incident-investigation report must include a root-cause determination, and the preventive and corrective actions identified and implemented.

(b) Provide certification to OTPCA and the Concord, New Hampshire OSHA Area Office within 15 working days of the incident that Obayashi—Jay Dee informed affected workers of the incident and the results of the incident investigation (including the root-cause determination and preventive and corrective actions identified and implemented).

(c) Notify the OTPCA and the Concord, New Hampshire OSHA Area Office within 15 working days and in writing, of any change in the compressed-air operations that affects Obayashi—Jay Dee's ability to comply with the conditions specified herein.

(d) Upon completion of the Cemetery Brook Drain Tunnel Project, evaluate the effectiveness of the decompression tables used throughout the project, and provide a written report of this evaluation to the OTPCA and the

[20] See 29 CFR 1904 (Recording and Reporting Occupational Injuries and Illnesses) (*http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9631*); recordkeeping forms and instructions *https://www.osha.gov/recordkeeping/forms.*

Concord, New Hampshire OSHA Area Office.

Note: The evaluation report must contain summaries of: (1) The number, dates, durations, and pressures of the hyperbaric interventions completed; (2) decompression protocols implemented (including composition of gas mixtures (air and/or oxygen), and the results achieved; (3) the total number of interventions and the number of hyperbaric incidents (decompression illnesses and/or health effects associated with hyperbaric interventions as recorded on OSHA Form 301 Injuries and Illness Incident Report and OSHA Form 300 Log of Work-Related Injuries and Illnesses, and relevant medical diagnoses, and treating physicians' opinions); and (4) root causes of any hyperbaric incidents, and preventive and corrective actions identified and implemented.

(e) To assist OSHA in administering the conditions specified herein, inform the OTPCA and the Concord New Hampshire OSHA Area Office as soon as possible, but no later than seven (7) days, after it has knowledge that it will:

(i) Cease doing business;

(ii) Change the location and address of the main office for managing the tunneling operations specified herein; or

(iii) Transfer the operations specified herein to a successor company.

(f) Notify all affected employees of this permanent variance by the same means required to inform them of its application for a permanent variance.

2. This permanent variance cannot be transferred to a successor company without OSHA approval.

OSHA hereby grants a permanent variance to Obayashi—Jay Dee Joint Venture for the completion of the Cemetery Brook Drain Tunnel Project in Manchester, New Hampshire.

VIII. Authority and Signature

David Keeling, Assistant Secretary of Labor for Occupational Safety and Health, 200 Constitution Avenue NW, Washington, DC 20210, authorized the preparation of this notice. Accordingly, the agency is issuing this notice pursuant to 29 U.S.C. 655(d), Secretary of Labor's Order No. 7–2025 (90 FR 27878, June 30, 2025), and 29 CFR 1905.11.

Signed at Washington, DC, on October 5, 2026.

David Keeling,

Assistant Secretary of Labor for Occupational Safety and Health.

[FR Doc. 2026–22021 Filed 10–28–26; 8:45 am]

BILLING CODE 4510–26–P

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

[Docket No. OSHA–2011–0010]

Fire Protection in Shipyard Employment Standard; Extension of the Office of Management and Budget's (OMB) Approval of Information Collection (Paperwork) Requirements

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Request for public comments.

SUMMARY: OSHA solicits public comments concerning the proposal to extend the Office of Management and Budget's (OMB) approval of the information collection requirements specified in the Fire Protection in Shipyard Employment Standard.

DATES: Comments must be submitted (postmarked, sent, or received) by December 28, 2026.

ADDRESSES:

Electronically: You may submit comments and attachments electronically at *http://www.regulations.gov,* which is the Federal eRulemaking Portal. Follow the instructions online for submitting comments.

Docket: To read or download comments or other material in the docket, go to *http://www.regulations.gov.* Documents in the docket are listed in the *http://www.regulations.gov* index; however, some information (*e.g.,* copyrighted material) is not publicly available to read or download through the websites. All submissions, including copyrighted material, are available for inspection through the OSHA Docket Office. Contact the OSHA Docket Office at (202) 693–2350 (TTY (877) 889–5627) for assistance in locating docket submissions.

Instructions: All submissions must include the agency name and OSHA docket number (OSHA–2011–0010) for the Information Collection Request (ICR). OSHA will place all comments, including any personal information, in the public docket, which may be made available online. Therefore, OSHA cautions interested parties about submitting personal information such as social security numbers and birthdates.

For further information on submitting comments, see the ''Public Participation'' heading in the section of this notice titled **SUPPLEMENTARY INFORMATION**.

FOR FURTHER INFORMATION CONTACT: Belinda Cannon, Directorate of Standards and Guidance, OSHA, U.S. Department of Labor; telephone (202) 693–1950.

SUPPLEMENTARY INFORMATION:

I. Background

The Department of Labor, as part of the continuing effort to reduce paperwork and respondent (*i.e.,* employer) burden, conducts a preclearance consultation program to provide the public with an opportunity to comment on proposed and continuing information collection requirements in accordance with the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3506(c)(2)(A)). This program ensures that information is in the desired format, reporting burden (time and costs) is minimal, the collection instruments are clearly understood, and OSHA's estimate of the information collection burden is accurate. The Occupational Safety and Health Act of 1970 (OSH Act) (29 U.S.C. 651 *et seq.*) authorizes information collection by employers as necessary or appropriate for enforcement of the OSH Act or for developing information regarding the causes and prevention of occupational injuries, illnesses, and accidents (29 U.S.C. 657). The OSH Act also requires that OSHA obtain such information with minimum burden upon employers, especially those operating small businesses, and to reduce to the maximum extent feasible unnecessary duplication of effort in obtaining information (29 U.S.C. 657).

The Fire Protection in Shipyard Employment Standard specifies a number of information collection requirements. In general, the standard requires employers to develop a written fire safety plan covering elements that identify the potential fire risk hazards and procedures for reporting these hazards, employers to create, maintain, and update a written policy that describes the internal and outside fire response organizations that the employer will use, and employers to notify employees and take the necessary precautions to make sure employees are safe from fire if for any reason a fire extinguishing system stops working. The standard also requires the employer to obtain medical exams for certain workers and to create and maintain records to certify that employees have been made aware of the details of the fire safety plan and that employees have been trained as required by the standard.

II. Special Issues for Comment

OSHA has a particular interest in comments on the following issues: