



Board of Building Standards

CONFERENCE MEETING AGENDA

DATE: SEPTEMBER 22, 2023
TIME: 10:00 AM
LOCATION: TRAINING RM 1, 6606 TUSSING RD, REYNOLDSBURG, OHIO 43068
[Click here to join the meeting](#)

Call to Order

Roll Call

Consideration of Minutes

[MIN-1](#) August 11, 2023 Meeting Minutes

Certification Hearing

[CH-1](#) Certification Hearing

Committee Reports

[CR-1](#) Certification Committee Report
[CR-2](#) Education Committee Report
CR-3 Committee-of-the-Whole

Ratification of Board Recognized Accreditation Bodies, Conformity Assessment Bodies & Industry Trade Association Certification Programs

No items for consideration

Building Department Support & Oversight

[RE-1](#) September Building Department Update

Public Comments

Old Business

[OB-1](#) Proposed New Industrialized Unit (IU) Rules - Action to initiate eNotification & file the proposed rules with CSI Office
[OB-2](#) Proposed Elevator Rules - Action to initiate eNotification & file the proposed rules with CSI Office
[OB-3](#) Proposed Boiler Rules - Action to initiate eNotification & file the proposed rules with CSI Office
OB-4 Pending or Imminent Litigation - Case # BBS2023-001 Settlement Agreement (Michael Wray)

New Business

NB-1 Draft Certification Rules - Action to Initiate Stakeholder Input Process

Compensate Board Members for Work Performed at their Regular Rate

Future Meeting Schedule

October 20, 2023
November 17, 2023

December 15, 2023

Motion to Adjourn

File Attachments for Item:

MIN-1 August 11, 2023 Meeting Minutes

MINUTES
BOARD OF BUILDING STANDARDS
CONFERENCE MEETING & CERTIFICATION HEARING
August 11, 2023

The Board of Building Standards Conference Meeting was called to order at 10:00 a.m., Friday, August 11, 2023 at 6606 Tussing Road, Reynoldsburg, Ohio, Chairman Timothy Galvin presiding.

Ms. Regina Hanshaw, Executive Secretary, called the roll and reported that the following Board members were present:

Greg Barney, Industrialized Units
Julienne Cromwell, Structural Engineer
Joseph F. Denk, Jr., Mechanical Engineer
Timothy P. Galvin, General Contractor, Chair
John Johnson, Construction Materials
Don Leach, Attorney
Terry McCafferty, Public Member
Christopher Miller, Renewable Energy
John Pavlis, Homebuilder, Vice-Chair
Jeff Samuelson, Architect
Bailey Stanbery, Homebuilder
Jeff Tyler, Architect
Christie Ward, Mayor
Paul Yankie, Energy Conservation

The following Board members were absent:

Greg Warner, Fire Service

A quorum of the Board was present.

The following staff members were present:

Megan Foley, Certification Program Administrator
Debbie Ohler, Construction Codes Administrator
Jay Richards, Assistant Construction Codes Administrator
Robert Johnson, Assistant Construction Codes Administrator
Mike Regan, IU Plans Examiner
Pam Butts, Office Assistant
Laura Borso, Building Department Administrator
Jacob Erwin, AAG

The following visitors were present:

Michael Spry, OBOA/City of Cincinnati
Michael Boso, City of Grove City
James Richardson, City of Columbus

CONSIDERATION OF THE MINUTES

Mr. McCafferty moved and Mr. Johnson seconded to approve the minutes of the June 23, 2023 meeting.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

CERTIFICATION HEARING

Chairman Galvin opened the hearing to hear testimony on the individuals and building departments appearing on the Final Certification Hearing Agenda in the Board's Meeting Packet at the Hearing tab. Ms. Foley informed the Board that the individuals and departments appear on the hearing agenda have been reviewed by the Certification Committee and determined to meet the requirements of certification.

COMMITTEE REPORTS

CR-1 Certification Committee Report

Mr. Leach gave the committee’s report included in the Board’s Meeting packet at Tab CR-1:

The Certification Committee met on August 11th, 2023, at 10:00 AM in the BBS Library, 6606 Tussing Road, with the following members present: Mr. Leach, Mr. McCafferty, Ms. Cromwell, Mr. Samuelson, Mr. Stanbery, Mr. Tyler, and Ms. Ward. Board Chairman Timothy Galvin was also present. The Committee makes the following recommendations, included in the August 12th, 2023 Board Packet at Tab CR-1, for the Board’s consideration.

Also present at the meeting were BBS Staff, Regina Hanshaw, Megan Foley, Rob Johnson, and Laura Borso. Guest Robert Ransom II attended in person, and guest Kota Wharton, with building official Mike Boso, attended virtually, to discuss their applications. Charles Huber, Kara Russell, and Dave Molnar attended the meeting virtually to observe.

Recommend the following applications be approved following a certification hearing effective immediately unless otherwise noted on the certification hearing agenda:

Cert ID	Name	Certification Approved
9152	Beach, Preston	Residential Plans Examiner Trainee
8799	Lamp, Eric	Electrical Safety Inspector Trainee Alternative Trainee Plan
9173	Sizemore, Terry	Electrical Safety Inspector*
8905	Wakefield, Alex	Building Inspector Trainee Alternative Trainee Plan Approved
9169	Wharton, Kota	Building Plans Examiner Trainee Electrical Plans Examiner Trainee Fire Protection Plans Examiner Trainee Mechanical Plans Examiner Trainee Plumbing Plans Examiner Trainee Alternative Trainee Plan Approved
	Kenny, John	Plumbing Inspector**
4811	D'Agostino, Daniel	Building Official (5/12/23)
6013	Ream, Jeffrey	Residential Building Official
5156	Reich, Raymond	Residential Plans Examiner, Residential Mechanical Inspector Residential Building Inspector Residential Industrialized Unit Inspector
1488	Testa, David	Residential Building Inspector
9158	Listermann, Joshua	Automatic Sprinkler System Designer
9161	Sexton Jr, Rex	Fire Alarm System Designer
9165	French, Matt	Automatic Sprinkler System Designer
9166	Kaiser, Troy	Fire Alarm System Designer

The following certifications were approved by the certification committee, with the exception of Mr. Tyler, who abstained.

Cert ID	Name	Certification Approved
59	Baldauf, Peter	Building Plans Examiner
9160	Baldwin, Zachary	Plumbing Inspector Trainee Plumbing Plans Examiner Trainee
4685	Bieler, Michael	Residential Building Official
9162	Biello, Danielle	Residential Building Inspector
9176	Carroll, Chad	Building Inspector Trainee
9145	Donaldson, John	NonResidential Industrialized Unit Inspector Residential Industrialized Unit Inspector
2778	Drago, Anthony	Plumbing Inspector

8557	Ellison, Richard	Building Inspector
9144	Gorman, Phillip	Residential Building Inspector
6086	Gorney, Steven	Residential Building Inspector
551	Grassi, Jeffrey	NonResidential Industrialized Unit Inspector Residential Industrialized Unit Inspector
5655	Hillier, Patrick	Building Inspector
6059	Johnstone, Michael	Residential Building Inspector
794	Koogan, Hugh	Building Official Building Plans Examiner Mechanical Inspector Fire Protection Inspector
808	Kulcsar, David	Electrical Safety Inspector Trainee
9146	Meske, Joshua	NonResidential Industrialized Unit Inspector
4911	Pallens, Jose	Plumbing Inspector
2145	Randles, Christopher	Building Plans Examiner
9175	Santillo, Michael	Residential Building Inspector
4713	Skurka, April	Building Plans Examiner Mechanical Plans Examiner Plumbing Plans Examiner
1394	Snodgrass, Renee'	NonResidential Industrialized Unit Inspector
9174	Studer, Richard	Building Inspector
4593	Virostek, Thomas	Building Official
1619	West, Gordon	NonResidential Industrialized Unit Inspector Residential Industrialized Unit Inspector
6343	Frankenhoff, Joseph	Electrical Plans Examiner
9177	Harding-Minton, Austin	Plumbing Inspector
	Markley, Daniel	Residential Building Official
1271	Roush, Michael	Mechanical Inspector** Mechanical Plans Examiner** Residential Building Inspector**

*Electrical Safety Inspectors must complete examinations prior to issuance of interim certification

** Denotes approval conditioned on receipt of forms or fees or other conditions.

Building Department Certifications

Rio Grande New Sub Department to Washington County

Exceptions - Plumbing, Med Gas

Waiting on additional paperwork - contract, certified personnel, transition plan

Approved pending receipt of remaining paperwork

Fort Loramie New Sub-department to Shelby County

Exceptions: Med Gas (should also include plumbing.)

Still waiting on contract, certified personnel, transition plan.

Approved pending receipt of remaining paperwork

Beach City New Commercial Department

On the condition that Stark County performs all code enforcement

Exceptions: Plumbing, Med Gas

Personnel Certification Applications

Recommend the following applications be denied, additional information be requested, or other action as noted:

Ransom II, Robert - PI Additional information

Certification ID: 8918

Current Certifications: RBI

Committee Recommendation: Recommend PI trainee, to be approved administratively upon receipt, alternative trainee plan to be reviewed by committee.

Adams, Seth - FPI

Certification ID: 9168

Current certifications: none, FSI 1.5 years.

Committee recommendation: Recommend request for additional information on FSI experience or fire protection installation experience, or FPI trainee.

Cloud, Chalsie - BO, BI

Certification ID: 9172

Current Certifications: None

Committee recommendation: Recommend request for additional information on qualifications for certification, including work history in construction industry.

Herriott, Chad - BO, BI

Certification ID: 5914

Current certifications: RBO, held ESI through 6/30/22

Committee Recommendation: Recommend request for additional information on Georgia certifications obtained.

McDowell, Lionel - BI

Certification ID: 9170

Current certifications: None. An RBI is indicated on the form, but that ID number belongs to a different individual, whose interim RBI expired in 2010.

Committee recommendation: Recommend request for additional information on prior RBI certification, experience for BI, felony convictions

Neuendorf, Mark - PI, MechPE, MI

Certification ID: 9167

Current Certifications: None

Committee recommendation: Recommend request for additional information on design experience and education, invitation to attend September 21 committee meeting to discuss.

Rybka, Michael - ESI

Certification ID: 9151

Current Certifications - none, has passed ESI exams

ESIAC Recommendations: No consensus reached

Committee recommendation: Recommend request for additional work history to demonstrate 6+ years journeyman level work as required for certification.

Kenny, John - PI

Certification ID:

Current Certifications: None

Staff Notes: Appears to meet requirements, original application and fee not yet received. Recommend approval upon receipt.

Committee recommendation: Emailed application demonstrates certification requirements are met: certification to be approved pending receipt of forms and fees.

New Business

Confirm D'Agostino Certification

At the May meeting, Mr. D'Agostino's certification was on the consent agenda, but was erroneously excluded from the certification hearing and committee report to the Board. Board staff has issued the certification with an effective date of May 12, 2023, and this certification will be reported in the August certification hearing with explanation.

Committee Recommendation: Approved.

Complaint Summary Report

Committee Recommendation: Accept items 1 and 2, table item 3 for further information.

New Certification Program Structure

Board staff has developed a new structure for personnel certifications that increases flexibility and provides a pathway for career advancement.

Committee recommendation: update to include notes from discussion, will require stakeholder input moving forward.

Certification Exams Revision

Board staff has been considering the list of required exams in relation to duties performed by each certification: submitted recommendation for changes.

Committee Recommendation: Approve board staff recommendation to omit requirement for residential plumbing inspector (P1, 5A) and residential electrical inspector (E1, 2A) exams and require commercial plumbing inspector (P2, 5B), commercial electrical inspector (E2, 2B) exams for the PI, ESI, RBO and RPE certifications.

Old Business

Pending or Imminent Litigation - Settlement (Wray)

A motion was made by Mr. Stanbery, and seconded by Mr. McCafferty, to adjourn to executive session pursuant to Ohio Revised Code §121.22(G)(3) to discuss pending or imminent litigation. A vote was taken to adjourn to executive session.

Aye: Mr. Leach, Mr. McCafferty, Ms. Cromwell, Mr. Samuelson, Mr. Stanbery, Mr. Tyler, and Ms. Ward.

Nay: None

Executive session adjourned, and committee meeting was adjourned.

Mr. Leach moved and Mr. McCafferty seconded to approve the recommendations of the committee.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously with Mr. Tyler abstaining.

CR-2 Education Committee Report

Mr. McCafferty gave the committee's report included in the Board's Meeting packet at Tab CR-2:

The Education Committee met on August 10th, 2023 at 10:00 AM in the BBS Library, 6606 Tussing Road, with the following members present: Mr. McCafferty, Mr. Stanbery, Ms. Cromwell, Mr. Samuelson, Mr. Tyler, and Ms. Ward. Board Chairman Timothy Galvin was also present. The Committee makes the following recommendations, included in the August 11th, 2023 Board Packet at Tab CR-2, for the Board's consideration.

BBS Staff Megan Foley was present for the meeting.

Courses approved without modification:

2021 IEBC Essentials (International Code Council)

All certifications (6 hours)

Authority-Having-Jurisdiction Seminar (Koorsen Fire and Security)

All certifications (7 hours)

Building Code Enforcement: Global Best Practices (Panel Discussion) (ICC)

All certifications (3 hours)

Evaluation Reports: Purpose and Criteria (ICC)

All certifications (1.5 hours)

Commercial Energy 2021 IECC (ICC)

All certifications (1.5 hours)

Fire Safety in the 2021 IBC (ICC)
All certifications (1.5 hours)

Grant Basics for Code Officials (ICC)
All certifications (1.5)

How to Be a Better Leader by Practicing Active Listening (ICC)
All certifications (1.5 hours)

Professional Ethics (ICC)
All certifications (1.5 hours)

The Plumbing Industry (ICC)
All certifications (3 hours)

The Tiny House (ICC)
All certifications (1.5 hours)

2017 vs. 2023 NEC Review (Southwest Ohio Electrical Organization)
All certifications (four 7.5-hour sessions)

2023 NEC (ICC)
All certifications (1.5 hours)

2023 NEC Code Changes Chapters 1-4 (Matthews Electrical Services)
All certifications (4 hours)

2023 NEC Code Changes Chapters 5-9 (Matthews Electrical Services)
All certifications (4 hours)

2023 NEC Significant Changes Overview (Matthews Electrical Services)
All certifications (4 hours)

Motors, Transformers, and the 2020 NEC (Matthews Electrical Services)
All certifications (4 hours)

Significant Changes to the 2023 NEC (Dayton Area Electrical JATC)
All certifications (12 hours, two 6-hour sessions)

Application and Administration of the 2021 I-Codes (ICC)
All certifications (1.5 hours)

OPC Chapter 7: Sanitary Drainage (Franklin County Public Health)
All certifications (7 hours)

Courses approved with modification or special circumstances, or denied, as stated.
2024 IBC/IEBC Significant Changes (ICC)
All certifications (1.5 hours)
Committee Recommendation: Not approved.

2024 IECC Changes and Status (ICC)
All certifications (1.5 hours)
Committee Recommendation: Not approved.

2024 IRC Significant Changes (ICC)
All certifications (1.5 hours)
Committee Recommendation: Not approved.

Western Section IAEI Annual Meeting (Conference/IAEI Western)
All certifications (18 hours)

Committee Recommendation: Full conference not approved for 18 hour course credit. Each course is approved individually. Attendees are to receive certificates for each course attended.

Old Business:
None this month

New Business:
None this month

Mr. McCafferty moved and Mr. Stanbery seconded to approve the recommendations of the committee.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

CR-3 Code Committee Report

Mr. Denk gave the committee's report included in the Board's Meeting packet at Tab CR-3:

The Code Committee met on August 10, 2023 with the following members present: Ms. Cromwell, Mr. Denk, Mr. Miller, Mr. Pavlis, Mr. Samuelson, Mr. Stanbery, Mr. Tyler, and Mr. Yankie. Board Chairman, Tim Galvin, was also present.

The committee report is included in the August 11, 2023 Board Meeting Packet at tab CR-3 for the Board's consideration.

August 10, 2023 Code Committee Meeting
Call to Order

The meeting was called to order by Mr. Denk at 1:13 P.M.

Approval of Minutes

Ms. Cromwell made the motion to approve the minutes of the Code Committee meeting held on June 13, 2023. Mr. Miller seconded the motion. The motion passed unanimously.

Petitions

Petition #23-06 - OPC Section 608.16.1 - beverage dispenser backflow prevention devices - Jim Chandler of Vista Water Group, LLC

Mr. Chandler presented his proposal to eliminate the requirement for an ASSE 1022 (double check with atmospheric vent) backflow device on the water supply to a beverage dispenser. Ms. Ohler provided a brief code history of water supply backflow prevention requirements for beverage dispensers and explained that the IPC model code has been modifying the requirements for years and most recently clarified the requirements by differentiating between carbonated and noncarbonated beverage dispensers. The petitioner mentioned that the 2024 IPC will accept ASSE 1032 (double check) for beverage dispensers and would like it added to the carbonated beverage dispenser section of the 2024 OPC. Staff clarified that while it is true that the 2024 IPC will accept only the ASSE 1032 device for noncarbonated beverage dispensers, the model code does not accept only the ASSE 1032 device for carbonated beverage dispensers. Mr. Pavlis made the motion to table the petition to allow staff to talk with ASSE and to draft new language that is a blend of the previous Ohio exception adopted in 2002, Mr. Chandler's petition, and the newest model code language. Mr. Miller seconded the motion. The motion passed unanimously.

Recommendations of the Residential Construction Advisory Committee

Reconsideration of Petition #23-04 - RCO 311.7.1 Two handrails - Robert Kramer

Staff reported that the RCAC reconsidered their original recommendation of denial of the petition and, again, recommended denial of the petition. The reasons given were that an additional railing would be costly, is unnecessary as traffic is only typically traveling in one direction in a dwelling, would make it difficult to add a chair lift on a residential stair, and would be more restrictive than the OBC for similar residential dwelling units. The Code Committee further discussed the pros and cons of adding a second handrail within a dwelling unit. Mr. Tyler made the motion to accept

the RCAC's second recommendation of denial of the petition. Mr. Miller seconded the motion. The motion passed unanimously.

Old Business

Industrialized Unit Rule Status

Ms. Hanshaw updated the committee on the status of the proposed IU rules. Staff has been working with the IU Board member, Greg Barney, to address a few of his concerns regarding the frequency and timing of inspections. After Mr. Barney's concerns have been adequately addressed, the rules will be posted and stakeholder comments will be solicited. No action was taken.

New Business

Elevator rules – 5 year rule review

Staff presented a proposed draft set of elevator rules for the committee to consider. The proposed changes were primarily to update to newer standards, to remove regulatory restrictions, to add a new section that allows a more recent edition of the A17.1 to be used in certain circumstances, and to omit an alternative load test methodology at the request of the Chief Elevator Inspector for the state, Chip Updyke. Mr. Updyke shared that he was in favor of the proposed rules and answered questions of the committee relating to the alternative load testing methodology. Mr. Pavlis made a motion to start the stakeholder review process by posting the draft rules and soliciting stakeholder feedback. Mr. Yankee seconded the motion. The motion passed unanimously.

Boiler and Pressure Vessel rules – 5 year rule review

Staff presented a proposed draft set of boiler and pressure vessel rules for the committee to consider. The proposed changes were primarily to update to newer standards and to remove regulatory restrictions. Mr. Miller made a motion to start the stakeholder review process by posting the draft rules and soliciting stakeholder feedback. Mr. Stanbery seconded the motion. The motion passed unanimously.

Adjourn

Mr. Pavlis made the motion to adjourn at 2:54 P.M. Mr. Miller seconded the motion. The motion passed unanimously.

Mr. Denk moved and Mr. Miller seconded to approve the recommendations of the committee.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

CR-4 Committee-of-the-Whole

Ms. Hanshaw stated that the Committee-of-the-Whole will be meeting immediately following the Board meeting to review the Certification Report prepared by ICC.

RATIFICATION OF BOARD RECOGNIZED ACCREDITATION BODIES, CONFORMITY ASSESSMENT BODIES & INDUSTRY TRADE ASSOCIATION CERTIFICATION PROGRAMS

No items for consideration.

BUILDING DEPARTMENT SUPPORT AND OVERSIGHT

RE-1 August Building Department Update

Ms. Borso presented the August building department report:

August 2023 Department Visit Status Report

Board Staff conduct building department visits to engage building officials in discussion regarding the administration of their departments and to obtain feedback for the Board. Specifically, Board Staff inquire on the status of plan review and inspection turnaround times, protocols, policies and

processes of the department, software systems used, current and projected activity, department funding and fees, relationships with fire departments, administration and elected officials, the issuance of plan approvals, adjudication orders, certificates of occupancy, and appeals.

The following Building departments were visited since the last Board update:

Clark County	Mayfield Heights
Hamilton	Middleburg Heights
Hillard	North Olmsted
Union County – site visit	Toledo
Kent	

Administrative and enforcement activity has remained strong but is showing some leveling off in the residential sector. There is continued upgrading of software/computer systems working towards implementing 100% digital submissions. If submitted, paper submissions are scanned for the plan examiners, ensuring documents can be accepted in any format.

There is a concern regarding the lack of certified inspectors to fill vacant positions. Departments are looking at alternative solutions to address this issue, such as, adjusting pay scales and implementing in house training. There was also an inquiry into possibly certifying permit techs. Some departments in rural areas have inquired regarding the abuse of agricultural exemption for barns and pole structures proposed for uses regulated by the building code. Ag structures are being converted for residential structures without approvals. Other inquiries of staff include the regulation of Air B & B's and vacation rentals.

Officials are anticipating the new Codes update in 2024. They have also provided positive feedback regarding the pamphlet distributed by the Board called "So you want to be a Certified Inspector" as a helpful tool for recruiting for their building department.

Building officials appreciate the visits that allows them to ask questions of Board staff and establish rapport with the Board.

RE-2 Complaint Summary Report

Mr. Johnson presented the complaint summary report:

New Complaints:

Columbus Building Department

On July 18, 2023, a complaint was received from Mr. Joe Motil, of Columbus, OH. Mr. Motil alleged that the City of Columbus Building Department has approved documents, dated June 12, 2023, related to the Baron's Bus Terminal located at 845 North Wilson Road Columbus, Ohio 43204 without the approval of the Columbus zoning commission's approval of substantial completion of site plans.

Mr. Amit Ghosh, Building Official, provided that the initial submission was reviewed based on the information within the construction documents submitted by the owner/representative-designer on May 15, 2023. Documents were resubmitted based on plan review comments on May 19, 2023. They were approved by the Columbus Building Department on May 22, 2023.

During that time period, local area residents informed the City of Columbus that the owner was operating the project and expressed concerns of loitering and traffic congestion impacting the community. On July 21, 2023, the owner, and the architect resubmitted documents for a new proposed building with bathroom facilities and to revise the code data to update the change of use to A-3 and address new occupancy rates, changing them from 12 occupants to 100 occupants.

The Columbus Building Dept. had inspected the site on July 27, 2023, and found it operating with portable/temporary facilities. An adjudication order was sent to the owner on July 27, 2023, indicating that the proposed project had not been approved, and that the owner was in violation for operating without a certificate of Occupancy.

The complainant cites violations of regulatory activity in the absence of site approvals/zoning, etc, to which OBBS has no authority to regulate, thus this matter of site development and approval is to be deferred to the appropriate division within the City of Columbus. The owner is responsible to ensure that all types of approvals are completed ,and to coordinate them with all specific State

and local requirements. The order the owner takes to apply for these approvals can vary, but any revisions needed for each approval is the owner's responsibility.

Board staff has determined that the City of Columbus (Building Dept) is operating within the requirements of the Ohio Building Code for enforcement, specifically for plan review, approval, and orders being issued by the building department. The owner is responding to the building department requests.

Recommendation: Dismiss complaint.

Mr. Miller asked whether this is the same Mr. Motil that is running against Mayor Ginther in the City of Columbus. Mr. Johnson responded that it was.

Mr. Leach moved and Mr. Johnson seconded to accept the summary report and staff recommendation included in the Complaint Status Report and dismiss the complaint with no further action as no violation of the Board's rules have been identified.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

Hamilton County Building Department

On August 3, 2023, a complaint was received from Mr. Ken Yeager, of 4181 Angie Court Cincinnati, OH. Mr. Yeager alleges that he is negatively impacted by a neighbor located at 4191 Angie Court due to surface storm water runoff. He provides information related to the neighbor's relocation of an installed a sump pump drainage system without a County permit from the Hamilton County Health District and that interconnection to storm water downspouts and general site drainage has not been properly mitigated.

Mr. Mike Stehlin, Hamilton County Building Official is aware of these circumstances and has responded to the complainant that the buildings are considered existing buildings and that any alterations, etc. to the building or building service equipment would require approvals. Mr. Stehlin indicated to Board staff that these issues related to the site are exempt from the building code. The complainant cites many ordinances in violation that relate to the authority of the County Engineer and the County Health District, as well as the Hamilton County Public Works Division.

Board staff has determined that the issue is outside the authority of the OBBS to enforce. There are no violations of enforcement rules by the building department. The issue is primarily civil in nature, and any enforcement would need to be addressed by the appropriate ordinances and departments within Hamilton County for site and storm water management.

Recommendation: Dismiss complaint.

Mr. Leach moved and Mr. Johnson seconded to accept the summary report and staff recommendation included in the Complaint Status Report and dismiss the complaint with no further action as the basis of the complaint is outside the scope of the building code and authority of the Board.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

C. Streetsboro Building Department, Dan D'Agostino RBO, RBI, ESI

On July 20, 2023, a complaint was received from Ms. Nicole Johnson, of Sal's Heating and Cooling, North Royalton, OH. Ms. Johnson alleges that her business is adversely affected by Mr. D'Agostino in the enforcement of a residential HVAC replacement located at 9463 Steffner. Violations were cited in the inspection record for not properly fastening/supporting refrigerant lines through an attic between the equipment. Board staff inquired of the nature of the issues and was told that Sal's would be charged an additional inspection fee for the reinspection. Mr. D'Agostino suggested that the contractor send pictures to verify the condition. Pictures were sent according to the record, but apparently was not conclusive as to how it was done. Mr. D'Agostino

informed the contractor that a site inspection was necessary to determine compliance. The contractor has objected to requesting the reinspection due to the assessed fee, even though an inspection will need to be performed to provide a certificate of completion.

Board staff determined that the inspector is not in violation to the OBBS enforcement rules, and it appears to be a local issue regarding fees and the contractor being unwilling to address compliance due to contractual issues with the owner. The RBO would be advised to issue an adjudication order to require compliance.

Recommendation: Dismiss complaint.

Mr. Leach moved and Mr. Pavlis seconded to accept the summary report and staff recommendation included in the Complaint Status Report and dismiss the complaint with no further action as the contractor has complied to final inspections and compliance has been verified by the Streetsboro Building department.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

PUBLIC COMMENTS

Mr. Boso thanked the Board for the work it is doing to respond to the staffing needs of departments.

OLD BUSINESS

OB-1 Action on Amendments Group 100 (2024 OBC, OMC & OPC Rules)

Ms. Ohler stated the building code update rules were heard by JCARR and its jurisdiction has now ended and that staff is requesting authorization to final file the rules.

Mr. Denk moved and Mr. Johnson seconded to adopt the proposed 2024 Ohio Building Code, Ohio Mechanical Code, and Ohio Plumbing Code rules, known as Amendments Group 100, and direct staff to electronically final-file the rules with the appropriate agencies for an effective date of March 1, 2024.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

NEW BUSINESS

NB-1 Proposed Elevator Rules – Action to Initiate Stakeholder Input Process

Ms. Ohler requested authorization to initiate stakeholder input process on proposed elevator rules updating elevator standards.

Ms. Denk moved and Mr. Johnson seconded to direct staff to begin the Common Sense Initiative process by posting the draft elevator rule amendments on the BBS website and requesting stakeholder feedback on the proposed draft rule language.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

NB-2 Proposed Boiler Rules – Action to Initiate Stakeholder Input Process

Ms. Ohler requested authorization to initiate stakeholder input process on proposed elevator rules updating elevator standards.

Mr. Denk moved and Mr. Johnson seconded to direct staff to begin the Common Sense Initiative process by posting the draft boiler and pressure vessel rule amendments on the BBS website and requesting stakeholder feedback on the proposed draft rule language.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

NB-3 Petition #23-06 – OPC 608.16.1 (Beverage Dispensers)

Ms. Hanshaw stated the Petition #23-06 was still being reviewed by the Code Committee so no action on the petition is being requested.

NB-4 Petition #23-04 – RCO 311.7.1 Two handrails – Robert Kramer

Mr. Richards stated the RCAC recommended to the Board to deny the petition requesting a change to the Residential Code of Ohio requiring a second handrail in stairways in homes. The Code Committee accepted the Code Committee recommendation because it would make the residential code more restrictive than the OBC for residential dwelling units.

Mr. Denk moved and Mr. Johnson seconded to deny petition #23-04 which proposes to require two handrails on each stair within a dwelling. The requirement, as proposed, would add cost and would be more restrictive than the OBC for similar residential dwelling units. An owner is always permitted to add an additional handrail if that is needed or desired.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

COMPENSATE BOARD MEMBERS FOR WORK PERFORMED AT THEIR REGULAR RATE

Ms. Hanshaw reported that board members had performed committee and board work for the amount of hours, including board meetings and required training, as follows:

Mr. Barney	8	Mr. Pavlis	16
Ms. Cromwell	16	Mr. Samuelson	16
Mr. Denk	16	Mr. Stanbery	16
Mr. Galvin	34	Mr. Tyler	16
Mr. Johnson	8	Ms. Ward	16
Mr. Leach	16	Mr. Warner	0
Mr. McCafferty	16	Mr. Yankie	16
Mr. Miller	16		

Mr. McCafferty moved and Mr. Stanbery seconded to compensate board members for the work performed at their regular rate.

Chairman Galvin called for the ayes and nays.

Motion carried unanimously.

FUTURE MEETINGS

September 22, 2023 November 17, 2023
October 20, 2023 December 15, 2023

ADJOURNMENT

Mr. Miller moved and Mr. McCafferty seconded to adjourn. The Board adjourned at 10:45 a.m.

Timothy Galvin, Chairman
Board of Building Standards

Regina Hanshaw, Executive Secretary
Board of Building Standards

MINUTES
BOARD OF BUILDING STANDARDS
COMMITTEE-OF-THE-WHOLE
SPECIAL MEETING
August 11, 2023

The Board of Building Standards Committee-of-the-Whole Special Meeting was called to order at 11:00 a.m., Friday, August 11, 2023 at 6606 Tussing Road, Reynoldsburg, Ohio, Chairman Timothy Galvin presiding.

Ms. Regina Hanshaw, Executive Secretary, called the roll and reported that the following Board members were present:

Greg Barney, Industrialized Units
Julienne Cromwell, Structural Engineer
Joseph F. Denk, Jr., Mechanical Engineer
Timothy P. Galvin, General Contractor, Chair
John Johnson, Construction Materials
Don Leach, Attorney
Terry McCafferty, Public Member
Christopher Miller, Renewable Energy
John Pavlis, Homebuilder, Vice-Chair
Jeff Samuelson, Architect
Bailey Stanbery, Homebuilder
Jeff Tyler, Architect
Christie Ward, Mayor
Paul Yankie, Energy Conservation

The following Board members were absent:

Greg Warner, Fire Service

A quorum of the Board was present.

The following staff members were present:

Megan Foley, Certification Program Administrator
Debbie Ohler, Construction Codes Administrator
Jay Richards, Assistant Construction Codes Administrator
Robert Johnson, Assistant Construction Codes Administrator
Laura Borso, Building Department Administrator

The following visitors were present:

Michael Spry, OBOA/City of Cincinnati
Michael Boso, City of Grove City
James Richardson, City of Columbus

PUBLIC COMMENTS

There were no public comments.

OLD BUSINESS

OB-1 Certification Study

The Board discussed the findings of the Certification Study prepared for the Board. Ms. Hanshaw stated that staff has began preparing a draft proposal for revisions to the Board's certification program allowing for career progression and ability to enter with little or no experience and presented initial ideas to the Certification Committee. Based on feedback during the committee meeting, Ms. Foley made changes to the proposal. Ms. Foley presented a summary of the revised proposal including progression from Level 1 permit technician/administrative to Level 6 of master code official and allowing for crossing training in other disciplines to progress. After discussion and input from Mr. Boso, Mr. Richardson and Mr. Spry, Ms. Hanshaw stated that the board staff

will continue work on the proposal and prepare draft rules for consideration at the next Board meeting. No action was taken.

NEW BUSINESS

There was no new business

ADJOURNMENT

Mr. McCafferty and Mr. Pavlis seconded to adjourn. The Committee adjourned at 12:15 p.m.

Timothy Galvin, Chairman
Board of Building Standards

Regina Hanshaw, Executive Secretary
Board of Building Standards

File Attachments for Item:

CH-1 Certification Hearing



SEPTEMBER 22, 2023
CERTIFICATION HEARING AGENDA

Notice is hereby given that the Board of Building Standards will convene for a certification hearing in accordance with the rules of the Board at 10:00 AM, September 22nd, 2023, at the Board of Building Standards, Training Room 1, 6606 Tussing Road, Reynoldsburg, Ohio 43068.

The purpose of the hearing is to hear testimony from anyone wishing to speak to the proposed certification of building departments, local boards of building appeals, and building department personnel.

Table with 3 columns: Cert ID, Name, Certification Granted. Lists individuals and their respective certifications such as Electrical Plans Examiner, Building Official, Mechanical Inspector, etc.



9207	Wing, Chad	Plumbing Inspector
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The following certifications were approved by the certification committee, with the exception of Mr. Tyler, who abstained.

8859	Ronccone, Edoardo**	Residential Industrial Unit Inspector Building Inspector Trainee
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*Electrical Safety Inspectors must complete examinations prior to issuance of interim certification

** Denotes approval conditioned on receipt of forms or fees or other conditions.

Building Department Certifications

Village of Sycamore - new commercial subdepartment of Wyandot County

Exceptions: Plumbing, Med Gas to be inspected by Richland County Health District

District

File Attachments for Item:

CR-1 Certification Committee Report



BOARD OF BUILDING STANDARDS

CERTIFICATION COMMITTEE MEETING REPORT

The Certification Committee met on September 21st, 2023, at 10:00 AM in the BBS Library, 6606 Tussing Road, with the following members present: Mr. McCafferty, Mr. Barney, Ms. Cromwell, Mr. Samuelson, Mr. Stanbery, and Mr. Tyler. Board Chairman Timothy Galvin was also present. The Committee makes the following recommendations, included in the September 22nd, 2023 Board Packet at Tab CR-1, for the Board’s consideration.

Also present at the meeting were BBS Staff, Regina Hanshaw, Megan Foley, and Laura Borso. Guest Jim Richardson attended the meeting in person to discuss the need for formalized subject matter trainee education, potentially sponsored by the Board. Guests Chad Herriott, Darren Mancini, and Alex Wakefield attended virtually, to discuss their applications. Charles Huber attended the meeting virtually to observe.

Recommend the following applications be approved following a certification hearing effective immediately unless otherwise noted on the certification hearing agenda:

Cert ID	Name	Certification Granted
8435	Buddner, Kevin**	Electrical Plans Examiner
387	Driggs, David	Building Official
8493	Friedman, James	Mechanical Inspector
9144	Gorman, Phillip	Building Inspector
5914	Herriott, Chad	Building Official Building Inspector Electrical Plans Examiner Electrical Safety Inspector
9205	Hungate, Joseph	Electrical Safety Inspector*
1953	Inghram, Thomas	Building Inspector Trainee Residential Building Inspector Trainee
9198	Jones, Craig	Electrical Safety Inspector*
783	Kniess, Phill**	Building Official
9190	Koppenhofer, Sean	Building Inspector
9209	Langwasser, Thomas	Mechanical Inspector
9199	Mancini, Darren	Residential Building Official
4757	Murray Jr., Theotis	Building Inspector
9194	O'Brien, Eric	Residential Building Official
9204	Pruden, Jason	Plumbing Inspector Plumbing Plans Examiner
8918	Ransom II, Robert	Plumbing Inspector Trainee
9195	Scarpucci, Dennis	Electrical Safety Inspector* Residential Building Inspector

Timothy Galvin, Chairman

Ohio Board of Building Standards
6606 Tussing Road
Reynoldsburg, OH 43068-9009

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9189	Schall, Travis	Plumbing Inspector
9210	Solenberger, Christina	Residential Plans Examiner Residential Building Inspector
9202	Taylor, John	Electrical Safety Inspector*
6376	Wakefield, Alexandria	Fire Protection Inspector
9208	Wiler, Timothy	Electrical Safety Inspector*
9207	Wing, Chad	Plumbing Inspector

The following certification was approved by the certification committee, with the exception of Mr. Tyler, who abstained.

8859	Ronccone, Edoardo**	Residential Industrial Unit Inspector Building Inspector Trainee
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*Electrical Safety Inspectors must complete examinations prior to issuance of interim certification

** Denotes approval conditioned on receipt of forms or fees or other conditions.

Building Department Certifications

Village of Sycamore - new commercial subdepartment of Wyandot County

All paperwork submitted.

Exceptions: Plumbing, Med Gas to be inspected by Richland County Health District

Personnel Certification Applications

Recommend the following applications be denied, additional information be requested, or other action as noted:

Cloud, Chalsie - BO, BI - additional information

Certification ID: 9172

Current Certifications: None

Committee recommendation: Upon receipt of additional information, applicant does not appear to meet requirements for certifications requested. Staff is directed to discuss application status with applicant, suggest RBI, invite applicant to committee meeting 10/19 to discuss with committee.

Friedman, James - BI, MI

Certification ID: 8493

Current certifications: PI, PPE, RBI, RMI

Committee recommendation: Recommend approval for MI, recommend BI trainee to be approved upon receipt of forms.

Langwasser, Thomas - BI, MI, PI, ESI

Certification ID: 9209

Current Certifications: None, OCILB HVAC license

Committee Recommendation: Recommend approval for MI. Recommend request for additional information on ESI, PI, BI. Application referred to ESIAC for review of ESI experience, applicant invited to 10/19 meeting to discuss qualifications.

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McDowell, Lionel - BI additional information

Certification ID: 9170

Current certifications: None. An RBI is indicated on the form, but that ID number belongs to a different individual, whose interim RBI expired in 2010.

Committee recommendation: Applicant invited to 10/19 meeting to discuss recent criminal history, or to submit additional information on 9/11/23 conviction.

Ronccone, Edoardo - BI Trainee, RIUI Trainee

Certification ID: 8859

Current Certifications: ESI, EPE, RBO, RBI

Committee recommendation: Recommend approval of BI Trainee, RIUI interim. No sponsor and supervisor forms submitted with trainee application, approval pending receipt. Mr. Tyler abstained from consideration of this application.

Smith, Aaron - ESI

Certification ID: 9185

Current Certifications: None

ESIAC Recommendations: Not recommended for approval

Committee Recommendation: Applicant does not appear to meet requirements for ESI.

Committee recommends applicant consider ESI trainee, if a department will sponsor and supervise.

Buddner, Kevin - EPE

Certification ID: 8435

Current Certifications: ESI

Committee Recommendation: Recommend approval pending receipt of forms and fees.

Clouse, Matthew - BO, BI

Certification ID: 9206

Current Certifications: None

Staff Notes: Application reflects mostly residential work.

Committee Recommendation: Recommend request for additional information on commercial structural work, commercial general contracting experience, and suggest RBO, RBI in place of BO and BI.

Kniess, Phill - BO

Certification ID: 783

Current Certifications: BI, ESI, RBO

Committee Recommendation: Recommend approval upon receipt of forms and fees.

New Business

None this month

Old Business

Department and Personnel Certification Rules, Code of Professional Conduct and Duties

Regina Hanshaw addressed the status of rule drafting, Jim Richardson, OAPI, City of Columbus, attended to discuss the need for formalized subject matter trainee education, potentially sponsored by the Board.

Timothy Galvin, Chairman

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File Attachments for Item:

CR-2 Education Committee Report



BOARD OF BUILDING STANDARDS

EDUCATION COMMITTEE MEETING REPORT

The Education Committee met on September 21st, 2023 at 10:00 AM in the BBS Library, 6606 Tussing Road, with the following members present: Mr. McCafferty, Mr. Stanbery, Mr. Barney, Ms. Cromwell, Mr. Samuelson, and Mr. Tyler. Board Chairman Timothy Galvin was also present. The Committee makes the following recommendations, included in the September 22nd, 2023 Board Packet at Tab CR-2, for the Board's consideration.

BBS Staff Megan Foley, Regina Hanshaw, and Laura Borso were present for the meeting. Guest Jim Richardson was present in person, and guest Charles Huber was present online, both attending to observe.

Courses approved without modification:

Commercial Food Service Plumbing (Assn Plumbing & Hydronics Contractors)
All certifications (2 hours)

Electric Vehicle Charger Installation and NEC Requirements (Ohio Certificate Renewal)
All certifications (4 hours)

Law and Ethics in Code Enforcement (ICC)
All certifications (1.5 hours)

Mass Timber and Type IV Construction in the IBC (ICC)
All certifications (1.5 hours)

Medical Gas (ICC)
All certifications (1.5 hours)

Ohio Plumbing Code Clarification (Assn Plumbing & Hydronics Contractors)
All certifications (2 hours)

Preparing for the 2024-26 Code Cycle (ICC)
All certifications (1.5 hours)

Quick Hits on Emerging Building Safety Topics (ICC)
All certifications (1.5 hours)

Review of OPC 3-7 and 9 (Assn Plumbing & Hydronics Contractors)
All certifications (4 hours)

Review of OPC Chapters 1-11 (Assn Plumbing & Hydronics Contractors)
4 hours all certifications.

Single-Stack Vent Systems (Assn Plumbing & Hydronics Contractors)
All certifications (2 hours)

Understanding the Ohio Plumbing Code (Assn Plumbing & Hydronics Contractors)
All certifications (8 hours)

Using Isometric Drawings for Code Understanding (Assn Plumbing & Hydronics Contractors)
All certifications (2 hours)

The Evolution of Structural Masonry Systems (International Masonry Institute)
All certifications (1 hour)

Third Parties and Residential Energy Code Compliance (ICC)
All certifications (1.5 hours)

Courses approved with modification or special circumstances, or denied, as stated.

Advanced Legal Aspects of Code Administration for Building Officials and Inspectors (ICC)
All certifications (6 hours)

Committee Recommendation: Ratification of BBS staff administrative approval.

Code Enforcement and the International Property Maintenance Code (ICC)
All certifications (1.5 hours)

Committee Recommendation: Not approved.

Old Business:

None this month

New Business:

None this month

File Attachments for Item:

RE-1 September Building Department Update

Building Department Support and Oversight

September 2023 Department Visit Status Report

Board Staff conduct building department visits to engage building officials in discussion regarding the administration of their departments and to obtain feedback for the Board. Specifically, Board Staff inquire on the status of plan review and inspection turnaround times, protocols, policies and processes of the department, software systems used, current and projected activity, department funding and fees, relationships with fire departments, administration and elected officials, the issuance of plan approvals, adjudication orders, certificates of occupancy, and appeals.

The following Building departments were visited since the last Board update:

Parma Heights
Wayne Co.

Administrative and enforcement activity has remained strong but is showing some leveling off in the residential sector. There is continued upgrading of software/computer systems working towards implementing 100% digital submissions. If submitted, paper submissions are scanned for the plan examiners, ensuring documents can be accepted in any format.

There is a concern regarding the lack of certified inspectors to fill vacant positions. Departments are looking at alternative solutions to address this issue, such as, adjusting pay scales and implementing in house training. There was an inquiry into possibly certifying permit techs with a suggestion for more in-depth soft skills training.

Some departments in rural areas have inquired regarding the abuse of agricultural exemption for barns, wedding barns and pole structures proposed for uses regulated by the building code. Ag structures are being converted for residential structures without approvals. Other inquiries of staff include the regulation of Air B & B's and vacation rentals.

Officials are anticipating the new Codes update in 2024. They have also provided positive feedback regarding the pamphlet distributed by the Board called "So you want to be a Certified Inspector" as a helpful tool for recruiting for their building department.

Building officials appreciate the visits as it allows them to ask questions of Board staff and establish rapport with the Board.

File Attachments for Item:

OB-1 Proposed New Industrialized Unit (IU) Rules - Action to initiate eNotification & file the proposed rules with CSI Office

4101:10-1-01 Title and scope.

(A) **Title.** Rules 4101:10-1-01 to 10-10-01 of the Administrative Code are designated as the “Ohio Industrialized Unit Rules” for which the designation “IU Rules” may be substituted. Where applicable, the technical provisions found in rules 4101:1-2 to 4101:1-35 of the Administrative Code (the “Ohio Building Code” - Chapters 2-35), rules 4101:2-2 to 4101:2-15 of the Administrative Code (the “Ohio Mechanical Code” - Chapters 2-15), rules 4101:3-2 to 4101:3-15 of the Administrative Code (the “Ohio Plumbing Code” - Chapters 2-15) and rules 4101:8-2 to 4101:8-44 (the “Residential Code of Ohio” - Chapters 2-44) are used by this code and are hereby incorporated by reference.

(1) **Rules of construction.** The following rules of construction are to be applied to rules 4101:1-2 to 4101:1-35 of the Administrative Code, rules 4101:2-2 to 4101:2-15 of the Administrative Code, rules 4101:3-2 to 4101:3-15 of the Administrative Code and rules 4101:8-2 to 4101:8-44 of the Administrative Code:

(a) All references to the “International Building Code,” “International Mechanical Code,” “International Plumbing Code,” and “International Residential Code” mean the “Ohio Building Code,” “Ohio Mechanical Code,” “Ohio Plumbing Code,” and “Residential Code of Ohio,” respectively, unless otherwise noted.

- (i) References to “this code” in rules 4101:1-1 to 4101:1-35 of the Administrative Code mean the “Ohio Building Code.” References to “building code” in divisions 4101:1, 4101:2, 4101:3 and 4101:8 of the Administrative Code mean “Ohio Building Code.”
- (ii) References to “this code” in rules 4101:2-1 to 4101:2-15 of the Administrative Code mean the “Ohio Mechanical Code.” References to “mechanical code” in divisions 4101:1, 4101:2, 4101:3 and 4101:8 of the Administrative Code mean “Ohio Mechanical Code.”
- (iii) References to “this code” in rules 4101:3-1 to 4101:3-15 of the Administrative Code mean the “Ohio Plumbing Code.” References to “plumbing code” in divisions 4101:1, 4101:2, 4101:3 and 4101:8 of the Administrative Code mean “Ohio Plumbing Code.”

- (iv) References to “this code” in rules 4101:8-1 to 4101:8-44 of the Administrative Code mean the “Residential Code of Ohio.” References to “residential building code” in divisions 4101:1, 4101:2, 4101:3 and 4101:8 of the Administrative Code mean “Residential Code of Ohio.”
 - (b) The phrase "applicable energy conservation code referenced in Chapter 13" is substituted for "International Energy Conservation Code" in divisions 4101:1, 4101:2 and 4101:3 of the Administrative Code.
 - (c) Except as otherwise noted and in rule 4101:1-34-01 of the Administrative Code, “Chapter 34” is substituted for “International Existing Building Code.”
 - (d) The terms “approval” or “approvals” are substituted for “permit” or “permits,” respectively, when referring to documentation indicating compliance with this code.
 - (e) The phrase “manufacturer’s representative” is substituted for “owner’s authorized agent.”
 - (f) Except as otherwise noted, “board of building standards” is substituted for “fire code official.”
 - (g) The phrase “board of building standards” is substituted for “code official.”
 - (h) The provisions of this code are mandatory whether or not the term “shall” is used.
- (B) Scope.** The provisions of the “IU Rules” shall apply where an application for authorization is submitted for the construction of *industrialized units*. As provided in division (B) of section 3791.04 of the Revised Code, no plans or specifications shall be authorized or inspection given unless the *industrialized unit* represented by those plans or specifications would, if constructed or equipped according to those plans or specifications, comply with Chapters 3781. and 3791. of the Revised Code and the applicable rules adopted by the board of building standards.
- (1) **Exceptions:**
 - (a) A manufactured home as defined by division (C)(4) of section 3781.06 of the Revised Code or a mobile home as defined by division (O) of section 4501.01 of the Revised Code.
 - (b) Amusement rides and portable electric generators and wiring supplying carnival and amusement rides regulated by the Ohio

department of agriculture pursuant to Chapter 993. of the Revised Code.

- (c) Floating structures that have been issued a “Hull Identification Number” (HIN) and a vessel registration from the Ohio department of natural resources division of parks and watercraft.
- (d) Portable mobile vehicles which have been issued a “Vehicle Identification Number” (VIN) by the United States department of transportation. The vehicles have wheels and license plates and are intended for transportation on the public streets and highways. Examples of the exempt vehicles include, but are not limited to, recreational vehicles, book mobiles, blood mobiles, mobile medical imaging units, mobile concession trailers, network television transmission and production trailers used at sporting events, mobile restroom facilities, mobile pet grooming units, etc.
- (e) Primitive transient lodging structures as defined in rule 4101:1-2-01 of the Administrative Code with only provisions for sleeping, with no building services equipment, piping, or electrical wiring system and not greater than 400 sq. ft. in area.
- (f) Intermodal shipping or freight containers, moving containers, storage containers, if used exclusively as a storage container and are unaltered or alterations that do not constitute closed construction.
- (g) Mobile computing units as defined in section 3781.06 of the Revised Code.
- (h) One-story, detached, accessory structures to dwellings where the accessory structure is without building services and used as tool and storage sheds, playhouses, playground structures or similar uses, provided the floor area does not exceed two hundred square feet (18.58 m²).
- (i) An *industrialized unit*, installed at the site of intended use, as a portion of an existing building having a certificate of occupancy. Per paragraph (D)(4) of rule 4101:10-3-01 of the Administrative Code, the identification of the structural entity as an *industrialized unit* ends and structure becomes an integral part of an existing building regulated as an existing building or structure.
- (j) A valid *industrialized unit* that has been constructed but not installed at the site of intended use and the board of building standards’ authorization has been invalid for a period exceeding two years, the

identification of the structure as an *industrialized unit* ends and the structure is regulated as an existing structure.

- (k) Materials, devices, products, appliances, equipment or methods of construction for which the board has recognized the conformity assessment body and the accreditation agency pursuant to section 114 of rule 4101:1-1-01 of the Administrative Code and in accordance with one of the following:
 - (i) Materials, devices and products used in accordance with their listing recognized by the board of building standards per section 114.3.1.
 - (ii) Alternative materials, products, equipment and methods of construction in accordance with their evaluation service report recognized by the board of building standards per section 114.3.2.
- (l) Where composite panels or components are constructed to include elements not provided for or accounted for in section 1704, then this code shall apply.
- (m) Composite spandrel panels using foam plastic insulation conforming to the provisions of section 2603 of the “Ohio Building Code” or section 316 of the “Residential Code of Ohio” as applicable.
- (2) **Intent.** The “IU Rules” apply to *industrialized units* used in the construction of *residential buildings* and *non-residential buildings*. To the extent of the construction documents submitted to the board, the *industrialized units* are to be in conformance with the applicable building code based on the occupancy type, intended use, and design criteria.
- (3) **Jurisdictional authority.** Buildings that include the installation of an *industrialized unit* are regulated under the rules of the board. The board of building standards has the authority to enforce the “IU Rules” with the *industrialized unit* manufacturer, applicant for authorization and within the manufacturing plant.
 - (a) **Manufacturer submission for authorization.** Before a manufacturer constructs an *industrialized unit*, the manufacturer is to receive an *authorization* from the board of building standards in accordance with paragraph (B) of rule 4101:10-3-01 and rule 4101:10-4-01 of the Administrative Code. Before a manufacturer transports an *industrialized unit*, the unit is to have an *insignia*

- applied in accordance with paragraph (D) of rule 4101:10-3-01 of the Administrative Code.
- (b) **Building owner submission for approval.** Where the building owner or owner's representative proposes to include the installation of an *industrialized unit* in the construction, addition, alteration, repair or the change of occupancy or use of a building, the owner is to identify the intent to use an *industrialized unit* on the construction documents submitted for approval to the department with the authority to enforce the rules of the board in the jurisdiction in accordance with rule 4101:1-1-01 of the Administrative Code for non-residential buildings or rule 4101:8-1-01 of the Administrative Code for residential buildings.
- (c) **Work without approval.** A unit, manufactured off-site, of closed construction, and arrives at the site of intended use without an *insignia* issued by the board of building standards is work constructed without approval and will be regulated at the site of intended use by the individual with the authority to enforce the rules of the board in the jurisdiction in accordance with rule 4101:1-1-01 of the Administrative Code for non-residential buildings or rule 4101:8-1-01 of the Administrative Code for residential buildings.
- (4) **Materials, systems and methods of construction.** Materials, products, assemblies or methods of construction used in the construction of an *industrialized unit* are to be approved by the board of building standards. The provisions of section 114 of rule 4101:1-1-01 of the Administrative Code describes the approval process intended in accordance with division (C) of section 3781.10 of the Revised Code and are hereby incorporated by reference.
- (5) **Industrialized units may exceed requirements.** An owner or a manufacturer may exceed the requirements of this code in compliance with paragraph (C)(5) of rule 4101:10-4-01 of the Administrative Code.
- (C) **Role of the Board.** Pursuant to 3781.10 of the Revised Code, the board of building standards shall adopt rules and issue authorizations for *industrialized units* that are in compliance with the requirements of these rules and the Revised Code. The board of building standards may designate a representative to administer the program, oversee plans examinations, issue authorizations and adjudication orders, render interpretations of the rules of

the board as they relate to industrialized units and conduct other administrative duties necessary to enforce these rules.

4101:10-2-01 Definitions.

- (A) **Definitions.** Unless otherwise expressly stated, the following words and terms are to, for the purposes of this code, have the meanings shown in this section.
- (1) **Interchangeability.** Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.
 - (2) **Defined in other codes.** Where terms are not defined in this code and are defined in the “International Energy Conservation Code,” “International Fuel Gas Code,” fire code, building code, mechanical code, ~~or~~ plumbing code, or the “Residential Code of Ohio” such terms are to have the meanings ascribed to them as in those codes.
 - (3) **Terms not defined.** Where terms are not defined through the methods authorized by this section, such terms are to have ordinarily accepted meanings such as the context implies.
 - (4) **Defined terms.**
 - (a) **Approval.** The action by the building official of the department with jurisdiction in accordance with rule 4101:1-1-01 or 4101:8-1-01 of the Administrative Code.
 - (b) **Approved.** Determined by the authority having jurisdiction to be in compliance with the rules of the board.
 - (c) **Authorization.** The board of building standards’ action which provides a manufacturer the license to build industrialized units based on the construction documents for the industrialized unit submitted to and *approved* by the board of building standards.
 - (d) **Building.** Any structure utilized or intended for supporting or sheltering any occupancy, function, or activity. This includes, but is not limited to, structures built or used for the shelter, occupancy, enclosure or support of persons, animals, or chattels. For the purposes of the “IU Rules,” the term “building” is to be construed as followed by the words “or portion thereof.”
 - (e) **Building, existing.** A building regulated by the Ohio building code or the residential code of Ohio, as applicable, that has been erected and for which a certificate of occupancy has been issued or can be issued in accordance with section 111.4 of rule 4101:1-1-01 or 4101:8-1-01, as applicable.

- (f) **Building, non-residential.** Any building that is not a residential building, industrialized unit, manufactured home or mobile home.
- (g) **Building, residential.** A one-family, two-family, or three-family dwelling house, and any accessory structure incidental to that dwelling house. "Residential building" does not include a manufactured home as defined by division (C)(4) of section 3781.06 of the Revised Code, or a mobile home as defined by division (O) of section 4501.01 of the Revised Code.
- (h) **Closed construction.** An assembly of materials or products manufactured in such a manner that its structural, plumbing, electrical, environmental control, or fire protection elements or components are concealed and are not readily accessible for inspection at the site of its erection, without disassembly, damage, or destruction. Closed construction includes assemblies where only one of the components is not accessible for inspection.
- (i) **Equipment unit.** A type of industrialized unit that is an enclosed, single unit assembly for the purposes of separating, from other portions of the building, the plumbing, mechanical, electrical or fire protection systems or operations in support of building services where access into the unit is limited and controlled to authorized personnel only and where the assembly as a whole is not otherwise listed in accordance with a referenced standard.
- (j) **Industrialized unit.** A prefabricated component, building unit or assembly comprised of closed construction, manufactured at a location remote from the site of intended use, with an insignia issued by the board of building standards and transported to a building site for its installation and subsequent use as part of a building structure, building services system (equipment, piping, wiring, etc.), or both. *Industrialized units* may be *modular units*, *panelized units* or equipment units and can be installed on the site of intended use as an independent unit, as part of a group of units, or incorporated with standard construction methods to form a completed structural entity.
- (k) **Insignia.** An official label provided by the board of building standards with a unique number that distinguishes each *modular unit* or *panelized unit* of an authorized *industrialized unit* from all other units manufactured.

- (l) **Inter-connection.** Point of attachment between an *industrialized unit* and any building components or systems, designed by others, and constructed at the site of intended use.
- (m) **Intra-connection.** Point of attachment between two or more modular units or panelized units required to complete the *industrialized unit* as authorized where the connection is completed at the site of intended use.
- (n) **Manufacturing plant.** The location at which the *modular units, panelized units or equipment units* are assembled or manufactured prior to transport to the site of intended use.
- (o) **Mateline.** The plane at which *intra-connections or inter-connections* are made.
- (p) **Modular unit.** A type of industrialized unit that is a building unit or assembly that is designed and authorized as a volumetric section having occupiable space or spaces of an industrialized unit. A modular unit can be transported to the site of intended use as a whole unit or broken down.
- (q) **Module.** A three-dimensional, volumetric section of a modular unit that is transported as a single section, independent of other sections, to a site of intended use for installation in a building.
- (r) **Panel.** A distinct, sectional element in a panelized unit.
- (s) **Panelized unit.** A type of industrialized unit that is a component that used as a surface or edge defining component (e.g. floor, wall or roof) and the component itself does not have space that can be occupied.
- (t) **Third-party inspection entity.** An individual certified by the board of building standards or a company with an individual(s) certified by the board of building standards or a state inspector designated by the board of building standards with the authority to inspect the scope of work. Certifications recognized by the board of building standards include a certification, issued by the board of building standards in accordance with rule 4101:10-9-01 of the Administrative Code, to inspect *industrialized units* or individual certifications, issued by the board of building standards in accordance with rule 4101:7-3-01 of the Administrative Code, to inspect the combination of building systems incorporated in the construction of the *industrialized unit*.

(B) Variations of defined terms. Such terms as heart modules or cores, modules, modulars, service cores, prefabs, sectional or sectionalized, panels or panelized construction, and specific terms including "prefabricated-subassembly, -building, -unit, -unit service equipment" may reference an *industrialized unit*. The units may be self-sufficient or interdependent as a unit or group of units to form a complete *industrialized unit*; and when used together or incorporated with standard construction methods, form a completed building.

4101:10-3-01 Manufacturer's participation.

- (A) **Manufacturer's participation in the industrialized unit program.** Every manufacturer participating in Ohio's *industrialized unit* program are to comply with paragraphs (A)(1) through (A)(4) of this rule prior to making application for *authorization of an industrialized unit*.
- (1) **Registration information.** The manufacturer is to register with the board of building standards. For the purpose of registration, the manufacturer is to provide the following information at a minimum:
- (a) Manufacturer's name, and
 - (b) Address of the manufacturing plant where the unit is constructed, and
 - (c) Contact name, phone number and email, and
 - (d) Identification of the *third-party inspection entity* recognized by the board of building standards that will perform in-plant inspections in accordance with paragraphs (A)(5) to (A)(7) and (C) to (C)(3) of this rule, and
 - (e) A statement of acknowledgement from the third-party inspection entity indicating that they have a contractual relationship with the manufacturer to perform the inspections. The statement shall include the name(s) and board certification(s) of the individual(s) who will be assigned to perform the inspections.
- (2) **Manufacturing plants in Ohio.** A manufacturer with a manufacturing plant in Ohio may request the board of building standards to designate a *third-party inspection entity* of the state for the purpose of performing required third-party inspections. The board may designate either the certified personnel of the local building department certified to enforce the rules of the board for the jurisdiction in which the manufacturing plant is located or the superintendent of the division of industrial compliance. The manufacturer is responsible for payment of any fees charged by a local certified building department or the division of industrial compliance in connection with review and inspection of an *industrial unit* pursuant to rule 4101:10-8-01 of the Administrative Code.
- (3) **Changes in registration information.** Whenever changes occur to company name, ownership, subsidiary status, address or change in the manufacturer's management personnel who are responsible for making policy concerning quality control, the manufacturer shall immediately notify the board, in writing, and the manufacturing plant(s) affected by the change will be subject to a plant evaluation inspection.

- (4) **Accessing industrialized unit program functions.** The board of building standards utilizes an electronic portal to conduct the official business of the *industrialized unit* program. No paper submissions or payments will be accepted. After registration is complete, the board will provide the manufacturer with access to the board of building standards' industrialized unit portal. The manufacturer and the board of building standards will use the portal for interactions including but not limited to:
- (a) Making application for board of building standards' industrialized unit authorization including submission of construction documents and any substantive revisions or amendments.
 - (b) Access to correction letter containing items of non-compliance and adjudication orders issued.
 - (c) Response to correction letter including resubmission of revised construction documents or intent to appeal.
 - (d) Access to authorized construction documents for download.
 - (e) Payment of fees.
 - (f) Request for insignia(s).
 - (g) Upload of shipping log(s).
- Other forms of communication are available and may be used for general information sharing.
- (5) **Manufacturing plant evaluation.** Before a manufacturer can begin construction of board authorized industrialized units, an initial manufacturing plant evaluation inspection is to be conducted by the *third-party inspection entity* identified in the manufacturer's registration with the board. An evaluation is to occur for each plant in which an *industrialized unit* with authorization from the board of building standards is being assembled and the evaluation is to assess the following:
- (a) Compliance with chapter 5 of the "1205 Standard for Off-site construction: Inspection and Regulatory Compliance, 2021 edition" as published by the International Code Council/Modular Building Institute. The manufacturer has a compliance assurance program in place to address quality control and where required participation in quality assurance to maintain acceptable control of materials and processes used in the manufacture of *industrialized units* to ensure conformance with the approved construction documents.
 - (b) The manufacturer's facility has necessary, adequate and appropriate spaces for production, storage, packaging, shipping, employees, etc. that are equipped (machinery, movers, platforms, cranes, tools, etc.)

- and supported with building services (utilities) of a reasonable manner for the manufacture of the authorized industrialized unit.
- (c) The plant evaluation inspection is to include all subassembly plants supplying the manufacturer, as the board may deem necessary.
 - (d) The board of building standards may require tests as evidence of compliance. Test methods are to be as specified in the applicable building code or by other recognized test standards. In the absence of recognized and accepted test methods, the testing procedures used are to be approved by the board of building standards. Tests are to be performed by a conformity assessment body recognized by the board in accordance with paragraph (B)(4) of rule 4101:10-1-01 and section 114 of rule 4101:1-1-01 of the Administrative Code. Reports of such tests are to be submitted to and will be retained by the board for the period required for retention of public records.
 - (e) Record and maintain a list of the *industrialized unit authorizations* for which the plant evaluation is applicable.
 - (f) The *third-party inspection entity* is to provide a summary of the initial plant evaluation to the board of building standards indicating the manufacturer's compliance with paragraphs (B)(5) to (B)(5)(e) of this rule of the Administrative Code.
- (6) **Frequency of evaluation.** In addition to the initial manufacturing plant evaluation, a manufacturer is to notify the *third-party inspection entity* that a review of the manufacturing plant evaluation is needed anytime one or more of the following occurs:
- (a) The manufacturer has received a new *authorization*. The review of plant evaluation applies only to the manufacturing plant at which the unit is to be assembled.
 - (b) The *industrialized unit* is assembled at a different plant location. The review of plant evaluation applies only to the manufacturing plant at which the unit is to be assembled.
 - (c) The manufacturing plant has not produced an *industrialized unit* authorized by the board of building standards in the preceding five (5) years.
 - (d) The manufacturer has made substantive change in their compliance with chapter 5 of the "1205 Standard for Off-site construction: Inspection and Regulatory Compliance, 2021 edition" as published by the International Code Council/Modular Building Institute.

- (e) The manufacturer has made an alteration or addition to the manufacturing plant such that the previous plant evaluation is incomplete, irrelevant or otherwise inaccurate.

A current manufacturing plant evaluation is the combination of the initial manufacturing plant evaluation and any amendments, revisions or replacement resulting from compliance with paragraphs (D)(6)(a) to (D)(6)(e) of this rule.

- (7) **Evaluation records.** The manufacturer is to maintain a current manufacturing plant evaluation for each *industrialized unit authorization*.
- (a) Where multiple industrialized unit authorizations are assembled at the same manufacturing plant and the manufacturing plant evaluation is sufficient for all industrialized units, the manufacturer need maintain only one current manufacturing plant evaluation.
- (b) The current plant evaluation is to include a list of all the authorizations for which the plant evaluation is applicable.
- (c) The *third-party inspection entity* is to retain a historical record of the manufacturing plant evaluation for the immediately preceding five (5) years.
- (d) Manufacturing plant evaluations are to be made available to the board of building standards upon request.
- (8) **Revocation of registration.** Upon failure of a registered manufacturer to comply with the conditions of the *authorization* and the “IU Rules,” the board, on its own motion, may order a hearing in accordance with section 119.03 of the Revised Code to unregister the manufacturer.
- (B) **Authorization required.** Any manufacturer who intends to manufacture, produce or assemble an *industrialized unit* must first make application for *authorization* to the board of building standards. The application for *authorization*, including revisions and renewals for existing *authorizations*, are to be submitted to the board together with required construction documents in accordance with this paragraph and the fee required in rule 4101:10-8-01 of the Administrative Code. Only the person holding an *authorization* may apply to the board for a revision or renewal of the approval.
- (1) **Board’s authorization.** The board, upon determination of compliance in accordance with paragraph (D)(2) of rule 4101:10-4-01 of the Administrative Code, shall issue an *authorization* to the applicant.

- (a) Industrialized units authorized by the board may be used anywhere in Ohio subject to the conditions for their use and application as indicated in the approval.
- (b) The manufacturer may assemble, produce or manufacture duplications, including any variations identified in the approved construction documents, of the industrialized unit with a valid authorization.
- (c) The authorization does not include approval for use associated with the following activities, locations or equipment unless specifically noted in the design criteria:
 - (i) Used to accommodate the manufacture, sales or storage of fireworks, or
 - (ii) Placement in a flood hazard area, or
 - (iii) Used in a facility that requires approval from the Ohio Department of Rehabilitation and Correction, or
 - (iv) Requires approval from the elevator section, division of industrial compliance, or
 - (v) Requires approval from the boiler section, division of industrial compliance.
- (2) **Conditions of authorization.** In addition to any design criteria established by the manufacturer for an industrialized unit, the board of building standards may also establish other conditions or limitations of the board of building standards' *authorization* to coordinate with the site of intended use. Such conditions or limitations may include, but are not limited to:
 - (a) Panel, module or equipment unit;
 - (b) Enclosed or unenclosed;
 - (c) Conditioned or unconditioned;
 - (d) Accessible or non-accessible; or
 - (e) Any other unique stipulations as needed.
- (3) **Revisions to authorization.** Prior to or during fabrication but before transport, any changes to board approved construction documents affecting the conditions illustrated or described in the *authorization* are required to be submitted for review and determination of compliance with the rules of the board as either an amendment of the existing *authorization* or as an application for a new *authorization*.
- (4) **Revocation of authorization.** Upon failure of the holder of an *authorization* to comply with the conditions of the *authorization* and the

“IU Rules,” the board, on its own motion, may order a hearing in accordance with section 119.03 of the Revised Code to revoke an existing authorization.

- (5) **Expiration of authorization.** An authorization is valid for up to one year after the effective date of rules of board adopting a subsequent model-code based edition of the applicable building code.
 - (a) **Exception:** An industrialized unit where manufacture started under a valid authorization issued by the board and was not transported to a building site of intended use but stored at a manufacturer’s or dealer’s facility, can be installed in Ohio as an industrialized unit for a maximum of two years after the effect on the date of the subsequent model-code based edition of the applicable building code. After this two-year time period, the unit’s insignia has expired and is to be regulated as a moved or relocated existing structure in accordance with the applicable building code provisions.
 - (b) **Renewal of expired authorization.** The holder of an expired authorization may renew the authorization by making application for a new authorization and submitting construction documents which include a cover letter requesting a renewal of the expired authorization, with revisions as needed and clearly identified, that are in compliance with the rules of the board that are in effect on the date of the application for industrialized unit authorization.
 - (6) **Applicable rules to be enforced.** Except as otherwise provided by these rules, the board of building standards exercises authorization authority to accept, review and approve construction documents and audit inspections, related to the manufacture of industrialized units, using the rules of the board that are in effect on the date of the application for an industrialized unit authorization.
 - (7) **Alteration of an authorized industrialized unit after transport.** The alteration of an industrialized unit at the site of intended use is permitted provided the building owner makes application to the building department with jurisdiction and receives approval for the alterations from the certified building official or other individual with the authority to enforce the rules of the board in the jurisdiction.
- (C) **Inspection required.** After issuance of an authorization by the Board and construction commences, the manufacturer shall have the unit(s) inspected by a third-party inspection entity to confirm that construction of the units is

consistent with the approved construction documents in accordance with this section.

- (1) **Initial inspections.** The manufacturer is required to notify the third-party inspection entity identified in the manufacturer's registration with the board that the initial industrialized unit constructed in accordance with an authorization is ready for required inspections listed in rule 4101:10-4-01 and are to provide ready access to all the module(s) or panel(s) of the industrialized unit for inspection. Where the inspection of the first three industrialized units has demonstrated that the manufacturer's quality control program is capable of assuring that the industrialized units produced are built in accordance with the construction documents approved by the board, the manufacturer may proceed in accordance with paragraph (2) of this section for inspections of subsequent industrialized units of similar use, size and method of construction as determined by the board for which an authorization has been issued by the board of building standards. When in the course of inspections of the initial industrialized unit, the third-party inspection entity identifies items of non-conformance with the approved construction documents, the items are to be corrected and the next unit(s) are to be inspected in accordance with this section until no further items of non-conformance have been identified in subsequent units. Records of initial inspections, including items of non-conformance and corrective action, are to be maintained by the third-party inspection entity and provided to the board upon request.
- (2) **Subsequent reduced inspections.** Where the initial inspections of industrialized units have demonstrated that the manufacturer's compliance assurance program is capable of assuring that the industrialized units produced are built in accordance with the construction documents approved by the board and no further items of non-conformance have been identified by the inspector in accordance with paragraph (1) of this section, then the manufacturer may choose to self-perform required inspections of each module or panel of subsequent industrialized units. Such inspections are to be performed by an employee of the manufacturer who is certified by the board of building standards in accordance with rule 4101:10-9-01 of the Administrative Code to inspect the scope of construction under the authorization. Records of such inspections, including items of non-conformance and corrective action, are to be maintained by the manufacturer and

provided to the board upon request. For manufacturers that produce five or more units of any authorized industrialized units, the third-party inspection entity is to visit the manufacturing plant, at random times at least four times per year, and conduct inspections of units intended for Ohio, audit the manufacturer's plant evaluation and compliance assurance program and review the record of inspections.

(a) **Exception:** Where the manufacturer does not self-perform required inspections, the third-party inspection entity is to perform at least one on-site inspection of "open" construction of each subsequent industrialized unit. The inspection is to include but is not limited to the rough framing and the rough building services inspections. Inspection of individual modules or panels of the same industrialized unit inspected at different phases of completion is acceptable provided at least one module or panel allows for rough framing inspection and one allows for rough building services inspection. Records of inspections completed under this exception, including items of non-conformance and corrective action, are to be maintained by the third-party inspection entity and provided to the board upon request.

(3) **Increased inspections.** Notwithstanding the above, upon notification by a third-party inspection entity to the board and the manufacturer that the compliance assurance program of a manufacturer does not sufficiently ensure compliance with the approved construction documents, or on the Board's own motion, increased inspection frequency may be ordered by the Board so that each assembly or component will be inspected by the third-party inspection entity. These inspections are to continue until an inspection demonstrates that the manufacturer's control of the materials and processes used is sufficient to ensure that the units are constructed in accordance with the approved construction documents. Records of such inspections, including items of non-conformance and corrective action, are to be maintained by the third-party inspection entity and provided to the Board upon request.

(4) **Remote inspections.** All inspections are to be in-plant except that a third-party inspection entity may provide remote virtual inspection when the third-party inspection entity has an established program for conducting remote inspections where directed by the inspector, recorded and conducted in real time.

- (D) **Insignia required.** Each *modular unit* or *panelized unit* or *equipment unit* of an authorized *industrialized unit* must have an insignia applied.
- (1) **Insignia acquisition.** An insignia is to be obtained from the board for each industrialized unit module or panel to be used within the state of Ohio.
 - (2) **Insignia placement.** The insignia is to be affixed to each unit, in the location identified in the authorized construction documents, after a determination is made by the *third-party inspection entity* that the unit is constructed in accordance with the construction documents authorized by the board.
 - (a) For industrialized units inspected per paragraph (C)(1) of this rule, the insignia cannot be applied until after the final inspection is completed by the 3rd party and is satisfactory.
 - (b) For industrialized units inspected per paragraph (C)(2) of this rule, the manufacturer is extended the authority to apply the insignia to the self-inspected units provided the 3rd party audit of inspections and process is kept in good standing and increased inspections are not required.
 - (c) For industrialized units inspected per paragraph (C)(3) of this rule, the Board has the authority and discretion to direct who is to apply insignias, under what conditions, for how long and the conditions under which the manufacturer can earn the right to apply insignias.
 - (3) **Insignia signifies.** An insignia, applied to the unit, constitutes final approval of the unit as compliant with the requirements of the applicable building code.
 - (4) **Insignia expiration.** An insignia expires at either of the following events:
 - (a) After the building owner receives a certificate of occupancy for the building in which the industrialized unit with this specific insignia is installed.
 - (b) After two years from the effective date of the subsequent model-based building code.
 - (5) **Assemblies without insignia.** Modules, panels or equipment units constructed without an *authorization* or arriving at the site of intended use without an *insignia* from the board of building standards are not *industrialized units*.
- (E) **Adjudication orders required.** When the board of building standards denies any authorization or takes action in response to findings of non-compliance

with the rules of the board, such action is to be initiated by issuing an adjudication order, prior to seeking any remedy, civil or criminal.

- (1) **Response to orders.** The person receiving an order shall exercise their right to appeal within thirty (30) days of the issuance of the order, comply with the order, or otherwise be released from the order by the board of building standards.
 - (2) **Time limitation of application.** If construction documents have been reviewed for compliance with the rules of the board, an adjudication order has been issued to the manufacturer, and the manufacturer has neither exercised the right to appeal pursuant to paragraph (F) of this rule nor resubmitted corrected documents, the application for authorization is invalid six months from the date of the issuance of the adjudication order. Any fees accrued for plan review are the responsibility of the manufacturer and are due upon receipt of notice of expired application.
- (F) **Appeals** Adjudication hearings shall be in accordance with sections 119.09 to 119.13 of the Revised Code. Requests for hearing is to be within thirty (30) days of the issuance date of an adjudication order. Unless otherwise provided in the order, the Ohio board of building appeals conducts adjudication hearings on orders issued pursuant to these rules.

4101:10-4-01 Authorizations.

- (A) **Application for authorization.** The manufacturer or manufacturer’s representative is to submit application for authorization and any submittals necessary to demonstrate compliance with the appropriate provisions of the applicable building codes in accordance with paragraphs (B) to (B)(3) of this rule. The application for *authorization* is an online, fillable form provided by the board at the electronic portal.
- (B) **Compliance standard.** Where construction documents demonstrate that the design and construction of the units are in compliance with the rules of the board including but not limited to the applicable referenced building codes based on the intended use and occupancy type in which the industrialized unit is to be incorporated.
- (1) **Industrialized unit for non-residential buildings.** Industrialized units intended for installation in non-residential buildings shall comply with the applicable provisions of the “Ohio Building Code”, “Ohio Mechanical Code”, “Ohio Plumbing Code” and other codes and standards referenced in those codes as listed in rule 4101:1-35-01, rule 4101:2-15-01 or rule 4101:15-01 of the Administrative Code.
 - (2) **Industrialized unit for residential buildings.** Industrialized units intended to be used exclusively for one-, two-, or three- family dwellings shall comply with the applicable provisions of the “Residential Code of Ohio for One-, Two-, and Three- Family Dwellings” and other codes and standards referenced in that code as listed in rule 4101:8-44-01 of the Administrative Code.
 - (3) **Products, materials and methods of construction used.** Any material, product, assembly or method of construction used in the construction of an industrialized unit shall be approved by the board of building standards. The provisions of paragraph (B)(4) of rule 4101:10-1-01 of the Administrative Code describe the product, material and method of construction approval process intended by the board of building standards in accordance with division (C) of section 3781.10 of the Revised Code.
- (C) **Submittals.** With the application for authorization and fee, construction documents are to be submitted to the board of building standards through the board’s electronic portal under a registered manufacturer. The construction

documents include design drawings and may include, but are not limited to, evaluation service reports, manufacturer's installation instructions, and test reports. The construction documents are to comply with this paragraph and rule 4101:10-5-01 of the Administrative Code:

(1) **Information on construction documents.** Construction documents are to be provided as electronic media documents. Construction documents are to illustrate or describe all essential elements of the structure or assembly and details of intra- and inter-connections. Construction documents are to be dimensioned, coordinated and of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the *industrialized unit* will conform to the provisions of this code. Construction documents, adequate for the scope of the project, is to include information necessary to determine compliance with the applicable referenced building code including but not limited to the building, mechanical, plumbing, fire, electrical, energy, fuel gas codes and where applicable the residential building code.

(a) **General information, design criteria and orientation.**

(i) **Design criteria.** Identify the conditions at the site of intended use that are necessary for the installation of the industrialized unit, the applicable codes, referenced standards, climatic and geographic conditions, all occupancy classification(s), type(s) of construction, the overall area of the industrialized unit, the maximum design occupant load, the structural design loads, the seismic design category and site class that control the design. Include specific conditions or design criteria that will prohibit the installation without additional alteration of the industrialized unit at the site of intended use and approval by the local building official including the following as applicable:

(a) **Unit type an integration.** Identify the type of unit proposed and the intended manner of integration at the site of intended use. Integration is one of the following:

(i) **Detached industrialized unit.** Where intended to be a stand-alone industrialized unit, identify the industrialized unit as detached and the minimum fire separation distance required.

(ii) **Attached industrialized unit.** Where intended to be an attached industrialized unit, identify the industrialized unit as attached and identify the specific conditions

- required of the building construction to which the industrialized unit can be attached.
- (b) **Floodplain unit.** Declare the unit as not designed for installation in a flood hazard zone; or, where the unit is intended for installation in a flood hazard zone, identify the flood hazard area for which the unit is designed.
 - (c) **Seasonal use unit.** Where the structure is identified and designed for seasonal use (May-September), compliance with thermal envelope requirements of the energy conservation provisions are not required.
 - (d) **Hazardous materials.** Where the industrialized unit is intended to store, process or otherwise contain hazardous materials, identify the hazardous material, classification type and quantity stored, processed or otherwise used.
- (ii) **Scope of work.** Each portion of the design represented in the construction documents are to be identified in one of three categories of work:
- (a) **Category 1 Factory assembled.** Work completed at the manufacturing facility under the board's industrialized unit authorization and inspected by the *third-party inspection entity*. Unless otherwise stated as category 2 or category 3 work, the design represented in the submitted construction documents is category 1.
 - (b) **Category 2 Site assembled.** Work completed at the site of intended use regarding modules or panels assembled at the manufacturing plant under the board's industrialized unit authorization. This work is to be inspected by the building department with the authority to enforce the rules of the board in the jurisdiction in accordance with the industrialized unit authorization and section 108 of rule 4101:1-1-01 or section 108 of rule 4101:8-1-01 of the Administrative Code as applicable.
 - (c) **Category 3 Building owner provided.** Work completed at the site of intended use necessary to accept the installation of the industrialized unit. This work is under the approval and inspection of the building department with the authority to enforce the rules of the board in the jurisdiction. The

manufacturer is not required to include any technical detail for category 3 scope of work.

- (iii) **Index.** A table of contents identifying the drawings, specifications and other product information included in the construction documents with a method to locate the information within the set of construction documents.
- (iv) **Orientation.** Provide appropriate code appellations of all spaces, identification of the type and location of illustrations, and a legend of notations/symbology used to orient the relationship between illustrations and reference related information that further illustrates or describes the industrialized unit’s compliance with the “IU Rules.”
- (b) **Structural integrity and load path.** Provide a complete description of the structural system, materials, components and details that complete the load path, of the industrialized unit including the resultant loads that have to be resisted by on-site construction.
- (c) **Fire-safety.** As required under the applicable referenced code, provide fire safety information within the construction documents to address the following:
 - (i) **Means of egress.** All modular units are to comply with the means of egress provisions in rule 4101:1-10-01 for non-residential buildings and rule 4101:8-3-01 for residential buildings. Equipment units need not comply with the means of egress provisions; however, the documents are to indicate the limited occupancy, have posted signage on exterior near point(s) of access and describe the method of access control.
 - (ii) **Fire and smoke protection systems and features.**
 - (a) **Fire-resistance ratings.** The fire-resistance ratings of all structural elements as required by this code, data substantiating all required fire-resistance ratings including details showing how penetrations will be made for electrical, mechanical, plumbing, and communication conduits, pipes, and systems, and the materials and methods for maintaining the required structural integrity, fire-resistance rating, and firestopping.
 - (b) **Flame spread and smoke developed classifications.**
 - (c) **Draftstops and fireblocking.**
 - (d) **Opening protectives**

- (e) **Fire detection, alarms, notification and suppression**
- (iii) **Life safety features.** Where the industrialized unit consists of more than two modules in any direction, life safety features are to be specified. The documentation should identify the egress path, fire separation assemblies, smoke barriers, fire and smoke dampers, and all fire protection system devices and signage.
- (d) **Unit accessibility.** The industrialized unit construction documents are to demonstrate compliance with the accessibility requirements of rule 4101:1-11-01 of the Administrative Code.
- (i) **Exception.** If accessibility provisions are not a requirement of the project, a statement is to be provided that declares the unit is for use where accessibility is not required.
- (e) **Sanitary materials, components and systems.** Where an industrialized unit includes potable water, drain, waste and vent system, storm drainage system or other portion of a plumbing system, identify the spaces, finishes, fixtures required for sanitary safety including potable water distribution and drain, waste and vent piping.
- (f) **Environment conditioning and ventilation.** Where an industrialized unit includes heating, cooling or ventilation systems, identify the spaces, equipment, appliances, ductwork, fuel, source of power and controls required for environmental conditioning or human comfort.
- (g) **Miscellaneous systems regulated under the building code.** Where other systems regulated under the rules of the board such as boilers, elevators, fuel gas or medical gas is provided, identify the portion of the system provided in the manufacturing plant assembly and indicate the owner of the building is responsible for completing any on-site inspections with applicable state and/or local agencies.
- (h) **Energy Conservation.** Unless otherwise exempt, demonstrate energy conservation through prescriptive compliance or an energy compliance alternative recognized in the applicable referenced building code. Where energy conservation compliance is demonstrated through a method other than the prescriptive method, provide supporting documentation that illustrates the conditions at the site of intended use that can result in compliant energy conservation.
- (i) **Connections.** Construction documents are to describe all essential elements of the industrialized unit and details of intra-connections and inter-connections including but not limited to:
- (i) **Structural members to each other and to site built construction;**

- (ii) Site utilities where a direct connection is provided;
 - (iii) Building service equipment and piping;
 - (iv) Electrical wiring systems;
 - (v) Plumbing and other sanitary systems;
 - (vi) Mechanical heating, cooling and ventilation systems; and
 - (vii) any other equipment whether installed at the site or in the manufacturing facility.
- (2) **Amended construction documents.** If substantive changes to the industrialized unit are contemplated after first document submission, or during assembly, those changes must be submitted to the board of building standards for review and authorization prior to those changes being executed.
- (3) **Alternative materials and methods of construction and equipment.** For approval of a device, material or assembly that does not conform to the prescriptive requirements in the applicable referenced building code, the construction documents may demonstrate compliance as an alternative material or method of construction in accordance with section 114.3.2 of rule 4101:1-1-01 of the Administrative Code.
- (4) **Alternative engineered design.** The design, documentation, inspection, testing and approval of an alternative engineered system shall comply with paragraphs (B)(4)(a) to (B)(4)(c) of this rule.
- (a) **Design criteria.** An alternative engineered design is to conform to the intent of the provisions of this code and is to provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety. Materials, equipment or components are to be designed and installed in accordance with the manufacturer's installation instructions.
 - (b) **Submittal.** The registered design professional is to indicate on the application that the system is an alternative engineered design. The approval and permanent approval records are to indicate that an alternative engineered design was part of the approved installation. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.
 - (c) **Technical data.** The registered design professional is to submit sufficient technical data to substantiate the proposed alternative engineered design and to prove that the performance meets the intent of this code.

- (i) **Exception:** Approval of alternative materials, products, assemblies and methods of construction in accordance with section 114.3.2 of rule 4101:1-1-01 of the Administrative Code.
- (5) **Non-required work.** Any component, building element, equipment, system or portion thereof not required by the applicable building code is to be permitted to be installed as a partial or complete system provided that it is constructed or installed in accordance with applicable building code to the extent of the installation.
- (6) **Evidence of responsibility.** Where required construction documents, are submitted for review as required under paragraph (C) of this rule, the design documents are to bear the identification of the person primarily responsible for their preparation.
 - (a) **Seal requirements.** Construction documents are to bear the seal of a registered design professional pursuant to section 3791.04 of the Revised Code.
 - (i) **Exceptions:** The seal of a registered design professional is not required on construction documents for:
 - (a) Buildings or structures classified as one-, two-, or three-family dwellings and accessory structures;
 - (b) Energy conservation design for buildings or structures classified as one-, two-, or three-family dwellings;
 - (c) Fire protection system designs submitted under the signature of an individual certified in accordance with section 107.4.4 of rule 4101:1-1-01;
 - (d) Industrialized units subject to sections 3781.06 to 3781.18 and 3791.04 of the Revised Code where the board of building standards determines that the proposed work does not involve the technical design analysis of work affecting public health or general safety in the following areas: means of egress, structural, mechanical, electrical, plumbing, or fire protection.
 - (b) **Sealed construction documents.** Construction documents which have been prepared by an Ohio registered design professional who prepared the same as conforming to the requirements of the rules of the board pertaining to design loads, stresses, strength, and stability, or other requirements involving technical analysis, need be examined only to the extent necessary to determine conformity of such

construction documents with other requirements of the rules of the board.

- (c) **Technical design analysis.** For the purpose of paragraph (C)(6) of this rule, technical design analysis is defined as the development of integrated solutions using analytical methods in accordance with established scientific and engineering principles.

- (D) **Authorization process.** When construction documents have been submitted to the board of building standards for review and *authorization* as an *industrialized unit*, the board shall cause the construction documents to be examined for compliance with the rules of the board to the extent of the scope of the *industrialized unit*. The examiner is to first determine whether the construction documents being reviewed are adequate as required in paragraph (A) of this rule. If so, the examiner is to review the construction documents to determine compliance with the rules of the board.

(1) **Limits of examination.**

- (a) The board of building standards' review of the construction documents submitted is based on the scope of work shown or described.
- (b) The design criteria identified in the construction documents are to be relevant to locations in Ohio and will require the site of intended use to meet the design criteria. Design criteria may exceed conditions in Ohio per section (B)(5) of rule 4101:10-3-01.
- (c) Authorization is not required for the following work; however, this work is to comply with all applicable provisions of the rules of the board:
- (i) Building:
- (a) One-story, detached, structures used as Group S-2 storage or Group U structure and similar uses provided no building services are installed and the floor area does not exceed one hundred twenty square feet (11.15 m²).
- (b) Water tanks supported directly upon grade if the capacity does not exceed five thousand gallons (18,927 L) and the ratio of height to diameter or width does not exceed two to one.
- (c) Finishes, cabinetry, decorative elements not regulated by the rules of the board.

- (d) Above-ground storage tanks as defined in rule 4101:1-2-01 of the Administrative Code and the associated tank foundations.
- (ii) Electrical:
 - (a) Electrical equipment used for radio and television transmissions except equipment and wiring for power supply, and the installations of towers and antennas.
 - (b) The installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.
 - (c) Electrical wiring, devices, appliances, apparatus or equipment operating at less than twenty-five volts and not capable of supplying more than fifty watts of energy, unless specifically addressed in this code.
 - (d) Process equipment and the associated wiring on the load side of the power disconnect to the equipment.
- (iii) Gas:
 - (a) Appliances and equipment used for heating, cooling or ventilation, exclusively or in combination, and where the appliance or equipment is portable in nature.
 - (b) Process equipment, including the associated tanks, foundations, and process piping.
 - (c) For combination building services and process piping systems, the process piping located on the process equipment side of the control valve which separates the process from the building services piping is exempt from approval.
- (iv) Mechanical:
 - (a) Appliances and equipment used exclusively or in combination for heating, cooling or ventilation and where the appliance or equipment is portable in nature.
 - (b) Process equipment including the associated tanks, foundations, and process piping. For combination building services/process or power piping systems, the power or process piping located downstream of the control valve which separates the process from the building services piping is exempt from approval.
- (v) Plumbing:

- (a) Process equipment including the associated tanks, foundations, and process piping.
 - (b) For combination building services and process piping systems, the process piping located on the process equipment side of the control valve which separates the process from the building services piping is exempt from approval.
- (2) **Plan review, compliance with rules of the board.** If the construction documents are determined to comply with the rules of the board, the examiner is to communicate the findings and recommend the conditions and type of authorization to the board's designee.
 - (a) **Board's authorization.** The board's designee is to evaluate the examiner's recommendations; and when the construction documents have been determined to conform to the applicable provisions of the rules of the board, the board's designee is to provide any additional limitation and stamp such plans with the board's industrialized unit seal as the authorization in accordance with section (B) of rule 4101:10-3-01 of the Administrative Code.
 - (b) **Locked authorization.** The board is to lock the authorized construction documents and save the documents under the registered manufacturer's account in the board's industrialized unit database. The authorized construction documents are available for download through the registered manufacturer's electronic portal.
 - (c) **Posting.** The authorized construction documents are to be available at manufacturer's facility during the manufacturing process of the industrialized unit. The manufacturer is to provide access to and use of the authorized construction documents by the *third-party inspection entity* for the required inspections during manufacture.
- (3) **Plan review, items of noncompliance.**
 - (a) **Corrections letter.** The board's plan review is to communicate with the manufacturer regarding observations of non-compliance in writing via the electronic portal until such time as an authorization can be issued or an adjudication order is either requested by the manufacturer or deemed necessary by the board.
 - (b) **Adjudications orders.** When issued, every adjudication order is to contain the following information:
 - (i) Clearly identify the rules of the board violated;

- (ii) Specifically indicate which detail, installation, site preparation, material, appliance, device, addition, alteration to structures, construction documents, assemblages or procedures are necessary to change to comply with the order;
 - (iii) Include notice of the procedure for appeal and right to a hearing if requested within thirty days of the mailing of the order. The order is to also indicate that, at the hearing, the manufacturer may be represented by counsel, present arguments or contentions orally or in writing, and present evidence and examine witnesses appearing for or against the manufacturer;
 - (iv) Specify a reasonable period of time in which to bring the item(s) on the order into compliance;
 - (v) The order is to be sent to the manufacturer and manufacturer's representatives.
- (4) **Time limitation of plan review.** The board of building standards will review submittals and issue a correction letter or an authorization in accordance these rules within thirty (30) days of the date of application.
- (5) **Order of plan review.** Construction documents submitted for authorization is to be examined for compliance with the rules of the board in the order received, except unless otherwise consented to by the manufacturers affected by deferred examination, or pursuant to an alternative schedule implemented by the board's designee providing for order of plan review based on project size or other rational basis. No alternative schedule may give preferential treatment to any one individual, organization or industry.
- (6) **Inadequate construction documents.** If construction documents are determined to be incomplete or inadequate for examination, the examiner is to report the findings to the applicant pursuant to paragraph (D)(3) of this rule. The examiner is to examine the construction documents to the extent possible and identify what information from this rule and rule 4101:10-5-01 of the Administrative Code is missing and needed to complete the required examination.
- (7) **Resubmitted documents.** If construction documents are resubmitted in response to an adjudication order or correction letter, the review for compliance is limited to determining that the item(s) of non-compliance, and any work affected, has been corrected.
- (8) **Authorized construction document sets.** Construction documents are kept on the board's industrialized unit database and are available for download through the electronic portal by the manufacturer or with the manufacturer's

permission. The board is to maintain the construction documents in accordance with its records retention schedule.

- (9) **Abandoned applications.** Applications will be considered abandoned if the manufacturer fails to respond to a correction letter or other written communication from the board requesting information within six (6) months from the date of the letter or communication. Abandoned applications are no longer valid and any fees accrued for plan review are the responsibility of the manufacturer and are due upon receipt of notice of the abandoned application.
- (E) **Required inspections.** Unless otherwise permitted under paragraph (C)(2) of rule 4101:10-3-01 of the Administrative Code, the *authorization* is to include a list of required inspections as determined by the Board from the following list:
- (1) **Plant evaluation.** In-plant evaluation in accordance with paragraphs (A)(5) to (A)(6)(e) of rule 4101:10-3-01 of the Administrative Code that affirms the current plant evaluation is sufficient for manufacture of the authorized industrialized unit and the compliance assurance program is available during the manufacturing process.
 - (2) **Rough framing.** Floor, floor/ceiling, wall, roof/ceiling, diaphragms, over framing, and other structural system components as included in the industrialized unit authorization.
 - (3) **Rough building services.** HVAC, plumbing, electrical, fuel gas, fire protection, medical gas, and other building service systems components as included in the industrialized unit authorization.
 - (4) **Weather resistance.** Roof covering, siding, water resistive barrier, flashing, ice barrier, vapor retarder, exterior windows and doors, thermal envelop and other materials used to protect the structure from water, moisture, vapor intrusion and energy conservation as included in the industrialized unit authorization.
 - (a) **Exception.** Industrialized units that are intended for installation inside another structure which is to provide the required weather resistance.
 - (b) **Thermal envelope.** The thermal envelop includes but is not limited to insulation, air barrier, air leakage, duct leakage, leakage testing, and other materials as included in the industrialized unit authorization.
 - (c) **Leakage in multi-module industrialized units.** For industrialized units that require assembly of multiple modules at the site of intended

use, the air leakage testing and duct leakage testing, if required, is to be completed at the site of intended use.

- (5) **Insignia of a subassembly.** Where an industrialized unit is assembled utilizing industrialized unit subassemblies, the inspection agency is to verify that the subassembly is a valid industrialized unit.
- (6) **Testing and reports.** Verification that required testing has been completed, records are maintained including testing results and correction of unsatisfactory results. Testing is complete when required testing demonstrates the construction is satisfactory as tested.
- (7) **Final.** A final inspection is of materials, components and construction that is readily visible after construction of the industrialized unit is complete including, but not limited to, finish materials, doors, glazing, cabinetry, millwork, hardware, fixtures, appliances, equipment, luminaires, devices, alarms, sensors, cover plates, etc. as included in industrialized unit.
- (8) **On-site inspections.** A list of inspections conducted at the site of intended use by the department with the authority to enforce the rules of the board in the jurisdiction including but not limited to intra-connections of modules or panels for structural system, building services, thermal envelope and finishes as well as inter-connections to site built construction and/or utilities as applicable.

4101:10-5-01 Construction documents.

- (A) **Organization of construction documents.** Construction documents are to provide required information as prescribed in paragraph (C) of rule 4101:10-4-01 of the Administrative Code and this rule. Information required to determine compliance will be searched first in the document illustrations, schedules and specifications as described in paragraphs (A)(1) to (A)(14) of this rule. To assist in efficient plan review, the construction documents are to be prepared, to the greatest extent possible, in conformity with the following as applicable based on the requested authorization:
- (1) **Cover sheet.** Provide identification of manufacturer, facility of manufacture, unique model identification, evidence of responsibility for the design and, either on the cover sheet or the next sheet, the following information:
 - (a) **Design criteria.** Identify the conditions at the site of intended use that are necessary for the installation of the industrialized unit. Include specific conditions or design criteria that will prohibit the installation without additional alteration of the industrialized unit at the site of intended use and approval by the local building official including the following as applicable:
 - (i) Type of industrialized unit and manner of integration.
 - (ii) Floodplain unit.
 - (iii) Seasonal use unit.
 - (iv) Hazardous materials.
 - (b) **Scope of work.** Each portion of the design represented in the construction documents is to be identified in one of three categories of work:
 - (i) Category 1 Factory assembled.
 - (ii) Category 2 Site assembled.
 - (iii) Category 3 Building owner provided.
 - (c) **Index.**
 - (d) **Not required.** Specific site addresses or building owner information related to the intended initial installation is not required.
 - (2) **Floor plans.** Provide configuration layout drawings of all horizontal floor and floor-ceiling systems with all walls and partitions shown including but not limited to full height, partial height, structural and non-structural walls, major openings, and references to other details, sections, elevations, accessibility and *matelines*. Floor plans are to

show all relevant information such as door swings, stairs and ramps, windows, shafts, all portions of the means of egress, plumbing fixtures, built-in fixtures, special equipment, vertical transportation, etc., and be sufficiently dimensioned to describe all relevant space sizes. Spaces are to be identified by appropriate code appellations. The number of occupants to be accommodated in each industrialized unit and in all rooms and spaces of the industrialized unit are to be designated on construction documents;

- (3) **Roof plan.** Where exposed to weather, provide a roof plan showing roof outline, overall dimensions, slope of roof, drainage, reference to other details, roof covering materials, penetrations through roof, and roof-mounted equipment;
- (4) **Exterior elevations.** For modules with vertical surfaces exposed to weather, provide exterior elevations showing and identifying major elements, material indications, windows, doors, louvers and all other openings, grade lines, floor lines, the bottom of module, top of foundation, top of wall/module/roof bearing, top of roof, mate lines for intra- and inter-connections, references to other details and vertical dimensions to these elements.
- (5) **Module sections.** Vertical dimensions, elevations of the top of structural components and finish floor lines, materials, footings and foundations, reference to other details, ceiling lines, and major mechanical services.
- (6) **Exterior envelope.** Where exposed to weather, the exterior envelope described in sufficient detail to determine compliance with this code and the referenced standards. Details are to be provided which describe flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves, or parapets, means of drainage, water-resistive membrane details around openings, location and type of vapor retarders, window and door “U”-values, and insulation location and “R”-values. The supporting documentation is to fully describe the exterior wall system, which was tested, where applicable, as well as the test procedure used.
- (7) **Wall Sections.** Face of wall dimensions to other components, vertical dimensions from foundations to parapet relating all elements to top of structural elements, all connection methods, wall, ceiling, floor, foundation, and roof materials and construction details.
- (8) **Interior elevations.** Vertical dimensions to critical elements, references to other details, openings in walls, wall finishes, built-in items, accessibility, and locations of switches, thermostats, and other wall-mounted equipment.

- (9) **Schedules.** Information or tables that describe the room finishes, doors, windows, and door hardware and controls. Wall and floor materials are to be described by cross hatching (with explanatory key), by notation, or by other clearly understandable method.
 - (10) **Structure.** Complete structural description of the industrialized unit including size and location of all structural elements and a table of live, wind, snow, and seismic loads used in the design of the industrialized unit and other data as required to fully describe the structural system. The resultant loads at the points of inter-connection with on-site construction are to be provided.
 - (11) **System descriptions.** Provide complete description of the building services (plumbing, mechanical, fuel gas and electrical systems,) fire protection systems and medical gas systems that are part of the industrialized unit including but not limited to:
 - (a) materials, insulation “R”-values, general routing and sizes of all piping;
 - (b) location and type of plumbing fixtures and equipment;
 - (c) plumbing schematics and isometrics;
 - (d) materials, insulation “R”-values, general routing and sizes of all ductwork, vents, and louvers;
 - (e) location and type of heating, ventilation, air conditioning, and other mechanical equipment;
 - (f) location and type of all lighting and power equipment;
 - (g) type and size of all electrical conductors.
 - (12) **Fire protection systems.** Areas of protection, fire alarm, fire suppression system occupancy hazard classification, and required water supply data.
 - (13) **Hazardous materials.** Provide information regarding operations, the types, quantities, and arrangement of flammable, combustible, or hazardous materials proposed to be produced, used, dispensed, or stored in the facility; material safety data sheets for hazardous materials produced, used, or stored in the facility, the commodity and arrangement of high piled or rack storage, control areas, etc.
 - (14) **Energy conservation.** Where energy conservation compliance is demonstrated through a method other than the prescriptive method, provide supporting documentation like energy analysis compliance software reports.
- (B) **Panelized units.** Where the *industrialized unit* is a *panelized unit*, all of the above information is required, as applicable, based on the scope of the requested *authorization* except floor plans and roofs plans. The elevations

and sections required in paragraphs (A)(4) to (A)(8) of this rule are to be provided for the panel in lieu of the volume bounded by the panel. For *panelized units*, any volumes, spaces or rooms created by their use including but not limited to the means of egress, accessibility, lighting, power, hvac systems, etc. are to be approved by the building official having authority to enforce the applicable building code for the jurisdiction.

4101:10-6-01 Transport.

- (A) **Transport to site of intended use.** Industrialized units may be shipped in structurally complete units ready for installation in the building structure or in knock-down and packaged form for assembly at the site.
- (B) **Shipping Reports required.** After an insignia has been affixed, the manufacturer is to record the use of the insignia in shipping records which are to keep, at a minimum, record of:
- (1) The shipping insignia number;
 - (2) Ohio board of building standards' industrialized unit group assigned project file number appearing on the board-authorized construction documents;
 - (3) The date the insignia was affixed to the individual unit;
 - (4) Name and address of the construction inspector and inspection agency.
 - (5) Manufacturer's unit serial number;
 - (6) Manufacturer's model number;
 - (7) Dealer name and address and;
 - (8) Site installation destination address and owner name.
- (C) **Submit record to the board.** Shipping records are to be submitted to the board of building standards through the electronic portal no later than thirty days following departure from the factory.
- (D) **Document submission to building departments.** The manufacturer is to provide the construction documents, authorized by the board, to the owner or owner's representative for purposes of design, code compliance or approval prior to placing the industrialized unit on site.
- (E) **Protect from damages.** Manufacturer is to protect the industrialized unit from damage during transport and installation. Causes of damage including but are not limited to movement (loading, unloading, transporting), weather, installation and activities of construction prior to installation into the building at the site of intended use.
- (F) **Manufacturer responsibility.** The manufacturer maintains responsibility over all work completed in the factory until the unit is approved for first occupancy and is responsible to rectify any damages or deviations from the authorized construction documents. Damages or deviations can be identified either in the field or at the place of manufacture. The manufacturer is to submit to the board such periodic reports, notifications and information as required by board procedures or may be requested by the board.

4101:10-7-01 Relocation and reauthorization.

- (A) **Existing buildings with industrialized unit.** Where a previously authorized industrialized unit is removed from the initial installation with the intent to relocate or replace the unit, one of the following conditions applies:
- (1) **Relocated building.** Where the unit is removed for the purpose of direct relocation, with or without repairs, alterations or a change of occupancy at the site of intended reuse, the owner is to comply with the requirements for a moved existing structure and make application to the building department with the authority to enforce the rules of the board in the jurisdiction where the unit is to be relocated for approval of the scope of work in compliance with the applicable building code.
 - (2) **Replacement modules.** Where the unit is removed for the purpose of replacement with a new unit, both (A)(2)(a) and (A)(2)(b) of this rule apply:
 - (a) The owner is to make application and get approval from the building department with the authority to enforce the rules of the board in the jurisdiction for either:
 - (i) a repair in accordance with the existing approval, in the same configuration, and not less safe, or
 - (ii) a replacement, with or without alteration, in accordance with the requirements for new construction and not less safe.
 - (b) The manufacturer is to make application to the board of building standards for authorization of either:
 - (i) An industrialized unit used as an alteration to an existing building and is constructed in accordance with the current building codes, or
 - (ii) An industrialized unit, used as a repair to an existing building and is constructed in accordance with a specifically identified, previously authorized industrialized unit.
- (B) **Reauthorization.** Where the unit is removed for the purpose of relocation and includes proposed repair, alteration or a change of occupancy to the previously authorized unit, the unit can be reauthorized by the board and receive a new insignia provided the repair, alteration or change of occupancy is:
- (1) completed by an industrialized unit manufacturer registered with the board, and

- (2) the manufacturer makes application to the board and submits construction documents describing the proposed modifications, with fee, for authorization, and
- (3) performed in an off-site location, and
- (4) performed in accordance with construction documents authorized by the board.

4101:10-8-01 Fees.

- (A) **Fees.** All costs associated with *industrialized unit* request for authorization applications, processing, construction document review, inspections and insignias shall be in accordance with this rule.
- (1) **Exception.** Ohio career technical schools and Ohio community colleges that manufacture an industrialized unit as part of a certified curriculum using third-party inspectors designated by the board of building standards are permitted to have fees waived.
- (B) **Applications.** Each initial application or revision submittal to the board is to be accompanied by a nonrefundable fee of one hundred thirty-five dollars, designated by the board to include:
- (1) application processing fee;
(2) one-hour minimum plan review fee; and
(3) other costs, when incurred, such as mailing and check processing.
- (C) **Evaluation of construction documents.** All costs of application processing, evaluation of construction documents or other documentation submitted to the board is to be paid by the applicant. Where the review for authorization exceeds one hour, the manufacturer is charged an additional plan review fee at the rate of one hundred dollars per hour (\$100/hr) in half hour increments for the total time required to complete the review for authorization.
- (D) **Plant evaluation and inspection costs.** All costs of plant evaluations and inspections is to be paid by the manufacturer of the unit including travel, food, lodging, and administrative costs.
- (E) **Insignias.** The fee for an insignia is as follows:
- (1) An insignia applicable to a *modular unit* for use in the state of Ohio shall be fifty dollars per unit (any preassembled combination of walls to floor, ceilings, roof, and other such components).
- (2) An insignia applicable to a *panelized unit* for use in the state of Ohio shall be one dollar for each twenty square feet of surface area of preassembled individual components (wall, floor, ceiling or roof sections, and other such components) intended to be shipped to the site and attached to other components at the site of intended use.
- (F) **Tests.** Tests required by the board to be performed to determine compliance pursuant to paragraph (A)(5)(d) of rule 4101:10-3-1 of the Administrative Code, is to be conducted at no expense to the board. Costs associated with

any required testing or research necessary to provide evidence of compliance is to be the responsibility of the applicant.

4101:10-9-01 Certifications.

- (A) **Third party inspector certification.** Individuals performing the required inspections of an industrialized unit at the manufacturing plant are to be certified by the board of building standards in accordance with this rule.
- (1) **General experience.** To qualify for certification, applicants is to have experience directly related to buildings or structures within the scope of the "Ohio Building Code."
 - (2) **Experience for industrial unit inspector certification.** An applicant for an industrialized unit inspector certification is to meet one of the following requirements:
 - (a) At least five years of experience as a construction contractor or supervisor for non-residential buildings or structures within the scope of groups regulated by the rules of the board;
 - (b) At least five years of experience as a skilled tradesman for work subject to inspection under a model building code of a national model code organization or a code adopted for non-residential buildings or structures within the scope of groups regulated by the rules of the board;
 - (c) At least five years of experience as a skilled tradesman for work subject to inspection under a residential dwelling code, a model building code of a national model code organization or a code adopted for non-residential buildings or structures regulated by the rules of the board;
 - (d) At least five years of experience gained with an agency or jurisdiction outside the state of Ohio enforcing a model non-residential building code of a national model code organization or a code adopted for the respective buildings or structures of the types regulated by the rules of the board, including industrialized units; or
 - (e) Certification as a building inspector as specified in paragraph (E)(11) of rule 4101:7-3-01 of the Administrative Code.

In evaluating the experience requirements for this certification, the board may accept applicable experience as specified in E)(1)(a) of rule 4101:7-3-01 of the Administrative Code.
 - (2) **Duties.** A person with an industrialized unit inspector certification is permitted to inspect all work associated with any industrialized unit.
 - (a) **Exception:** Persons with certifications issued by the board of building standards under rule 4101:7-3-01 of the Administrative Code for a limited scope of inspection (e.g. building inspector, mechanical inspector, plumbing inspector, electrical safety inspector, etc.) are permitted to inspect the scope of work of an industrialized unit to the extent of their certification. Persons with

inspection certification for residential buildings are not permitted to inspect industrialized units intended for non-residential buildings.

- (B) **Conflict of interest.** Except as provided in paragraph (C)(2) of rule 4101:10-3-01 of the Administrative Code, no certified person who contracts for inspection services with a manufacturer of an industrialized unit shall perform inspection services which would require that person to exercise authority or make an evaluation of any work furnished by said inspector or by a private contractor that employs said inspector on a full-time, part-time, or incidental basis. Further, such certified person shall not engage in conduct that is prohibited or considered a conflict of interest pursuant to Chapter 102. of the Revised Code.
- (C) **Personnel certification application, filing, processing and renewal.** Applicants for industrialized unit inspector certification are to comply with all the requirements of rule 4101:7-3-01 of the Administrative Code.
- (1) **Exceptions to continuing education requirements:**
- (a) Holders of initial industrialized unit inspector certification are not required to complete the “Ohio Building Code Academy” or “Code Administration and Skills Training.”
- (b) To renew an industrialized unit inspector certification, applicants are to have completed thirty hours of continuing education. The courses are to be approved by either the board of building standards or “International Code Council,” or approved for health, safety, and welfare ("HSW") credit by the "American Institute of Architects." Industrialized unit inspector certification holders are not required to complete continuing education courses dedicated to the subjects of code administration, existing buildings, or ethics as condition of renewal.

File Attachments for Item:

OB-2 Proposed Elevator Rules - Action to initiate eNotification & file the proposed rules with CSI Office

Proposed Changes to the BBS Elevator Rules (September 2023)

4101:5-1-01 Scope.

This ~~code covers~~ division of the Administrative Code applies to the design, construction, repair, alteration, and maintenance of:

- (A) Passenger elevators;
- (B) Freight elevators;
- (C) Stage lifts;
- (D) Dumbwaiters;
- (E) Escalators;
- (F) Moving walks;
- (G) Belt Manlifts;
- (H) Mine elevators;
- (I) Wind turbine tower elevators;
- (J) Special service elevators and other lifting and lowering equipment as provided for by section 4105.01 of the Revised Code, but ~~shall~~ does not include the following:
 - (1) Conveyors and related equipment within the scope of "ANSI B20.1";
 - (2) Tiering or piling machines used to move material to and from storage and located and operating entirely within one story;
 - (3) Equipment for feeding or positioning materials at machine tools, printing presses, etc.;
 - (4) Hoists for raising or lowering materials and which are provided with unguided hooks, slings, and similar means for attachment to the materials;
 - (5) Skip or furnace hoists;
 - (6) Wharf ramps;
 - (7) Amusement devices, but does include elevators in observation towers, etc.;
 - (8) Lift bridges;
 - (9) Railroad car lifts or dumpers;
 - (10) Material hoists and material lifts; and

(11) Workmen's hoists in place for the duration of the construction renovation or demolition of the project; and

(12) Elevators within individual dwelling units.

4101:5-1-02 Definitions.

~~Note: For definitions~~ This rule defines terms used in rules 4101:5-1-01 to 4101:5-3-02 of the Administrative Code.

(For definitions of terms not contained herein, refer to the "ASME" standards listed in rule 4101:5-3-01 of the Administrative Code.)

"ASME" means the "American Society of Mechanical Engineers." Referenced standards, codes, and related technical information developed by this organization can be purchased by logging on to <http://www.asme.org> or by calling 1-800-the-asme.

"Board" means the board of building standards as established by section 3781.07 of the Revised Code and authorized by division (A) of section 4105.011 of the Revised Code to formulate rules and regulations governing the design, construction, repair, alteration, and maintenance of elevators.

"Board of building appeals" means the board of building appeals as established by section 3781.19 of the Revised Code.

"Division" means the division of industrial compliance in the department of commerce.

"Elevator" means, a hoisting and lowering apparatus equipped with a car, cage, or platform which moves on or between permanent rails or guides and serves two or more fixed landings in a building or structure to which section 3781.06 of the Revised Code applies. "Elevator" includes dumb-waiters other than hand-powered dumb-waiters, escalators, manlifts of the endless belt type, moving walks, other lifting or lowering apparatus permanently installed on or between rails or guides, and all equipment, machinery, and construction related to any elevator; but does not include construction hoists and other similar temporary lifting or lowering apparatuses, ski lifts, traveling, portable amusement rides or devices that are not affixed to a permanent foundation, or nonportable amusement rides or devices that are affixed to a permanent foundation.

"Freight elevator" means an elevator normally used for carrying freight and on which only the operator and employees in the pursuit of their duties, by the permission of the employer, are allowed to ride.

"General inspector" means a state inspector examined and hired to inspect elevators and lifting apparatus for that state.

"Inspector" means either a general or special inspector.

"Moving walks" means a type of passenger-carrying device on which passengers stand or walk, and in which the passenger-carrying surface remains parallel to its direction of motion and is uninterrupted.

"Owner or user" means any person, firm or corporation owning or operating any elevator.

"Special inspector" means an inspector examined and commissioned by the superintendent to inspect elevators and lifting apparatus in the state.

"Superintendent" means the superintendent of the division of industrial compliance created in the department of commerce under section 121.04 of the Revised Code, or the person designated by the superintendent as responsible for the enforcement of rules 4101:5-1-01 to 4101:5-3-02 and 1301:3-6-01 to 1301:3-6-06 of the Administrative Code.

4101:5-1-03 Enforcement.

- (A) The superintendent of the division of industrial compliance ~~shall enforce all~~ enforces the provisions of rules 4101:5-1-01 to 4101:5-3-02 and rules 1301:3-6-01 to 1301:3-6-06 of the Administrative Code relating to the design, construction, repair, alteration, and maintenance of elevators and elevator controls as defined in rule 4101:5-1-02 of the Administrative Code.

Exception: Municipal corporations, such as the city of Cleveland and the city of Cincinnati, which are authorized to adopt regulations for the regular inspection of elevators pursuant to section 4105.19 of the Revised Code.

- (B) All requirements within the standards referenced in "Table 4101:5-3-01" of rule 4101:5-3-01 of the Administrative Code that relate to the construction of the building and the building service equipment located within an elevator hoistway enclosure, hoistway, machine room, and control room such as, but not limited to, requirements for wall materials, wall fire resistance ratings, fire and/or smoke dampers, means of egress doors and hardware, ladders, air conditioning systems, ventilation systems, fire protection systems, lighting systems, electrical power supply to the elevator controls, lighting switches, electrical disconnects and selective coordination of overcurrent protective devices (OCPD), plumbing, sanitary piping, and sump pits ~~shall~~ are to be enforced by the building official having jurisdiction as determined in division (A)(1) of section 3791.04 of the Revised Code.

4101:5-1-04 Application for permit.

In accordance with section 4105.16 of the Revised Code-, every owner or contractor ~~shall~~ is required to apply for and obtain a permit from the division of industrial compliance prior to the installation of, alteration of, or repair of any elevator regulated by the division. The application ~~shall~~ is to be made on forms prescribed by the superintendent and in accordance with rule 1301:3-6-03 of the Administrative Code.

4101:5-1-05 Adjudication order.

Before attempting to enforce, by any remedy, civil or criminal, the provisions with which the proposed or inspected elevator does not comply, the superintendent ~~shall~~ will issue an

adjudication order in accordance with section 4105.11 of the Revised Code. The owner of the elevator specified therein may appeal to the board of building appeals under section 3781.19 of the Revised Code.

4101:5-1-06 Examination for certificate of competency.

- (A) No person may act, either as a general inspector or as a special inspector of elevators, unless ~~he~~ that person holds a certificate of competency issued by the superintendent in accordance with rule 1301:3-6-02 of the Administrative Code.
- (B) The written examination administered by the superintendent, prior to issuance of a certificate of competency, ~~shall be~~ is the "Quality Elevator Inspectors (QEI) Examination."

4101:5-1-07 Assessment fee.

- (A) In accordance with division (I) of section 4105.17 of the Revised Code, in addition to any fees assessed and collected directly from the owner or user for the inspection and issuance of a certificate of operation, the superintendent will collect, directly from the owner or user, a board assessed fee of three dollars and twenty-five cents for each certificate of operation or renewal thereof and for each inspection conducted.
- (B) The three dollars and twenty-five cent assessment fee collected directly from the owner or user on behalf of the board ~~shall~~ is to be remitted to the board when deposited by the division of industrial compliance pursuant to section 121.084 of the Revised Code. The superintendent ~~shall~~ is to report to the board the amounts remitted not later than one month following the first full month's collection and then monthly thereafter.

4101:5-3-01 Accepted engineering practice and approved standards.

Unless otherwise specifically provided for in rules 4101:1-30-01 or 4101:5-1-01 to 4101:5-3-02 of the Administrative Code, compliance with the applicable technical provisions and requirements of the standards listed in "Table 4101:5-3-01" of ~~the Administrative Code~~ this rule is prima facie evidence of conformity with accepted engineering practice or with an approved standard governing the design, construction, repair, alteration and maintenance of elevators. Compliance with a more recently published edition of a standard listed in "Table 4101:5-3-01" of this rule is acceptable as meeting the minimum standard identified provided that compliance is demonstrated to the entire standard and the specific edition of that standard is identified on the approval record issued by the superintendent. Additionally, the specific edition of that standard is to be identified on the certificate of plan approval and the certificate of occupancy issued by the building official having jurisdiction pursuant to rule 4101:1-1-01 of the Administrative Code. Addenda subsequently issued by the promulgating agency in between published editions is not enforceable unless specifically adopted herein.

Table 4101:5-3-01

Promulgating Agency (Note a)	Standard Identification	Edition	Title
ASME	A 17.1 (Note b)	2016 2019	Safety Code for Elevators and Escalators
ASME	A17.3 (Note c)	2015 2020	Safety Code for Existing Elevators and Escalators.
ASME	A17.6	2010 2017	Standard for Elevator Suspension, Compensation, and Governor Systems
ASME	A17.7	2007	Performance-based Safety Code for Elevators and Escalators
ASME	A17.8	2016	Standard for Wind Turbine Tower Elevators
ASME	A18.1	2014 2020	Safety Standard for Platform Lifts and Stairway Chairlifts
ASME	A 90.1	2015	Safety Standard for Belt Manlifts
ESTA	E1.42	2016 2018	Design, Installation, and Use of Orchestra Pit Lifts
Note a	ASME means the "American Society of Mechanical Engineers" and ESTA means the "Entertainment Services and Technology Association"		
Note b	<p>Section 2.2.2.5-delete the last sentence;</p> <p>Section 8.6.11.10 – delete the entire section.</p> <p>Section 8.11.1.1.2(a)- change to read as follows: Periodic tests, as required in 8.6, are not required to be witnessed by a general or special inspector.;</p> <p>Section 8.11.1.1.2(b)- change to read as follows: Periodic test reports shall <u>are to be</u> submitted to the division within five business days of the</p>		

Table 4101:5-3-01

	<p>completion of the periodic test. The test reports shall <u>are to</u> be on forms prescribed by the superintendent and shall <u>are to</u> include the date and type of test(s) performed, detailed results of the test(s), and a statement as to any corrective action taken.</p>
<p>Note c</p>	<p>The rules of the board shall <u>are not to</u> be retroactively applied to existing elevators that are not otherwise being altered or repaired. Portions of an elevator not altered and not affected by an alteration are not required to comply with the code requirements for a new elevator.</p>

4101:5-3-02 Resolution of conflicts.

- (A) In the event of conflict, the rules of the board of building standards adopted pursuant to section 3781.10 of the Revised Code and known as the "Ohio Building Code", the "Ohio Mechanical Code", and the "Ohio Plumbing Code" ~~shall~~ govern any rule or standards adopted by the board pursuant to division (A) of section 4105.011 of the Revised Code.
- (B) The rules of the board ~~shall~~ are not to be retroactively applied to existing elevators that are not otherwise being altered or repaired. Portions of an elevator not altered and not affected by an alteration are not required to comply with the code requirements for a new elevator.

File Attachments for Item:

OB-3 Proposed Boiler Rules - Action to initiate eNotification & file the proposed rules with CSI Office

Proposed Changes to the BBS Boiler Rules (September 2023)

4101:4-1-01 Definitions and abbreviations.

As used in Chapters 4101:4-1 to 4101:4-10 of the Administrative Code,

- (A) "Alteration" means any change in the item described on the original manufacturer's data report which affects the pressure containing capability of the boiler or pressure vessel. Non physical changes such as an increase in the maximum allowable working pressure (internal or external) or design temperature of a boiler or pressure vessel ~~shall be~~ are considered ~~an alteration~~ alterations. A reduction in minimum temperature such that additional mechanical tests are required ~~shall~~ is also ~~be~~ considered an alteration.
- (B) "ASME" means the "American Society of Mechanical Engineers". Referenced standards, codes, and related technical information developed by this organization can be purchased by logging on to <http://www.asme.org> or by calling 1-800-the-asme.
- (C) "Authorized Inspection Agency" means an entity, accepted by the "National Board," that provides third party inspection services in which boilers and pressure vessels are inspected during construction, repairs, and alterations to verify their conformity with the code of construction adopted by the board of building standards. Authorized inspection agencies employ authorized inspectors.
- (D) "Authorized Inspector" means an individual holding a "National Board" commission with the appropriate endorsement and designated as such by an "Authorized Inspection Agency".
- (E) "Board" means the board of building standards established by section 3781.07 of the Revised Code and authorized by section 4104.02 of the Revised Code to formulate rules and regulations for the construction, installation, repair, conservation of energy, and operation of boilers and for the construction and repair of pressure vessels.
- (F) "Boiler" means a closed vessel in which water is heated, steam is generated, steam is superheated, or any combination thereof, under pressure or vacuum for use externally to itself by the direct application of heat from the combustion of fuels, or from electricity or nuclear energy. The term boiler ~~shall include~~ includes fired units for heating or vaporizing liquids other than water where these units are separate from processing systems and are complete within themselves.
- (G) "Boiler, high pressure, high temperature water" means a water heating boiler operating at pressures exceeding one hundred sixty psig or temperatures exceeding two hundred fifty degrees Fahrenheit.
- (H) "Boiler, low pressure" means a steam boiler operating at pressures not exceeding fifteen psig, or a hot water heating boiler operating at pressures not exceeding one hundred sixty psig or temperatures not exceeding two hundred fifty degrees Fahrenheit.
- (I) "Boiler, portable" means a boiler which is primarily intended for temporary use and the construction and usage of which is obviously portable.
- (J) "Boiler, potable water heater" means a boiler used for supplying potable hot water for commercial

purposes at pressures not exceeding one hundred sixty psig and temperatures not exceeding two hundred ten degrees Fahrenheit, except that water heaters are exempted when none of the following limitations are exceeded:

- (1) Heat input of two hundred thousand Btu per hour;
 - (2) Water temperature of two hundred ten degrees Fahrenheit;
 - (3) Nominal water-containing capacity of one hundred twenty gallons.
- (K) "Boiler, power" means a boiler in which steam or other vapor, to be used externally to itself, is generated at a pressure of more than fifteen psig.
- (L) "Boiler, process" means a boiler to which all of the following apply:
- (1) The steam in the boiler is either generated or superheated, or both, under pressure or vacuum for use external to itself.
 - (2) The source of heat for the boiler is, in part or in whole, from a process other than the boiler itself.
 - (3) The boiler is part of a continuous processing unit, such as used in chemical manufacture or petroleum refining, other than a steam-generated process unit.
- (M) "Btu" means "British Thermal Unit".
- (N) "Certificate of competency" means the document issued by the superintendent to a person who has passed the examination prescribed by the board of building standards.
- (O) "Certificate of inspection" means a report of the inspection of a boiler as required by sections 4104.11, 4104.12, and 4104.13 of the Revised Code and the rules of the board of building standards. The written report, completed by a general or special inspector, when filed in the office of the superintendent, ~~shall be~~ becomes the basis on which a certificate of operation may be granted or denied. The certificate of inspection would then be replaced with a certificate of operation, if granted.
- (P) "Certificate of operation" means the certificate issued by the superintendent to the owner or user following the general or special inspector's inspection of a boiler in accordance with section 4104.12 of the Revised Code.
- (Q) "Code stamp" means the permanent "ASME" identifying stamping applied to boilers and pressure vessels which indicates that the vessel has been constructed in accordance with the rules of the board and the applicable section of the "ASME Boiler and Pressure Vessel Code" and has been approved by an authorized inspector.
- (R) "Commission, National Board" means a certificate and renewable commission card issued by the "National Board" to an individual who has satisfied the requirements and the rules of the "National Board."
- (S) "Commission, Ohio" means a document issued by the superintendent pursuant to section 4104.08 of the Revised Code, which authorizes a general or special inspector to inspect boilers and pressure vessels for use in the state of Ohio.

- (T) "Contractor" means any person, firm, partnership, company, or corporation that engages in the practice of installing or making major repairs or modifications to any boiler that is subject to the provisions of Chapters 4101:4-1 to 4101:4-10 and 1301:3-5 of the Administrative Code.
- (U) "Inspection, external" means the inspection of the exterior parts of a boiler and the fittings, appurtenances, controls, and safety appliances attached thereto while the boiler is under operating conditions.
- (V) "Inspection, internal" means a complete visual and physical inspection of the interior of a boiler.
- (W) "Inspector, general" means a state of Ohio employee holding a certificate of competency and a valid Ohio commission to inspect boilers and pressure vessels to be used in the state of Ohio.
- (X) "Inspector, special" means an individual who holds a valid "National Board" commission and a valid Ohio commission to inspect boilers and pressure vessels to be used in the state of Ohio. Special inspectors are typically employed by an insurance company authorized to write boiler and pressure vessel insurance in the state of Ohio but can also be employed as an inspector by the owner-user of the boiler or pressure vessel which is proposed for use or is operating within the state of Ohio. The owner-user ~~must~~ is obligated to maintain an established inspection program meeting the requirements of the "National Board" publication "NB-371, Accreditation of Owner-User Inspection Organizations (OUIO)" referenced in rule 4101:4-3-01 of the Administrative Code. In their capacity as a special inspector, they are a representative of the state boiler inspection department, acting independently of their relationship with their employer.
- (Y) "Installation, existing" means any boiler or pressure vessel within the scope of these rules that has been previously approved and issued a certificate of operation.
- (Z) "Installation, new" means any boiler or pressure vessel that has not yet been placed in service or issued a certificate of operation.
- (AA) "National Board" or "NB" means the "National Board of Boiler and Pressure Vessel Inspectors." Referenced standards, codes, publications, and other technical information developed by this organization can be purchased and obtained by logging on to <http://www.nationalboard.org> or by calling (614)888-8320.
- (BB) "NBIC" means the "National Board Inspection Code" as published by the "National Board of Boiler and Pressure Vessel Inspectors" and referenced in rule 4101:4-3-01 of the Administrative Code.
- (CC) "NFPA" means the "National Fire Protection Association." Referenced standards published by this organization can be purchased by logging on to <http://www.nfpa.org> or by calling (800)344-3555.
- (DD) "Non-standard" means an existing power boiler or pressure vessel which was installed prior to July 1, 1913 and was not constructed and stamped in accordance with the rules adopted by the industrial commission of Ohio or the Ohio board of building standards.
- (EE) "Ohio special" means a boiler or pressure vessel which does not fully comply with "ASME" code requirements, but has been approved for use in Ohio by special action of the board of building standards under section 4104.02 of the Revised Code or permitted for use by the board of

building appeals under section 3781.19 of the Revised Code.

- (FF) "Ohio-standard" means an existing boiler or pressure vessel constructed to meet the rules of the Ohio industrial commission code requirements but not stamped with the applicable "ASME" symbol.
- (GG) "Owner or user" means any person, firm or corporation owning or operating any boiler or pressure vessel.
- (HH) "Pressure vessel" means a container for the containment of pressure, either internal or external. This pressure may be obtained from an external source or by the application of heat from a direct or indirect source or any combination thereof.
- (II) "psi" means pounds per square inch.
- (JJ) "psig" means pounds per square inch gage.
- (KK) "Qualified individual" means a service technician trained and thoroughly knowledgeable about the installation, operation, maintenance and service of the specific boiler fuel-burning system, controls, and safety devices.
- (LL) "Reinstallation" means a boiler or pressure vessel removed from its original setting and re-erected at the same location or a new location without a change of ownership.
- (MM) "Repair, major" means the process of restoring a boiler, pressure vessel, or component of a boiler or pressure vessel to a safe and satisfactory condition such that the existing design requirements are met.
- (NN) "Repair, routine" means repairs meeting the conditions prescribed in "Part 3" of the "NBIC ~~Part 3~~" and determined acceptable to the superintendent as a routine repair.
- (OO) "Revised Code" means the general statutes of the state of Ohio as revised and consolidated into titles, chapters, and sections.
- (PP) "Secondhand" means a used boiler or used pressure vessel which has had a change of ownership and location.
- (QQ) "Stationary Steam Engine" means an engine or turbine in which the mechanical force arising from the elasticity and expansion action of steam or from its property of rapid condensation or from a combination of the two is made available as a motive power.
- (RR) "Superintendent" means the superintendent of the division of industrial compliance created in the department of commerce under section 121.04 of the Revised Code, or the person designated by the superintendent as responsible for the enforcement of rules 4101:4-1-01 to 4101:4-10-01 and 1301:3-5-01 to 1301:3-5-10 of the Administrative Code.

4101:4-2-01 Scope, administration, and enforcement.

- (A) All boilers and pressure vessels proposed for use in the state of Ohio ~~shall~~ are to be designed, constructed, installed, altered, repaired, maintained, and operated in accordance with the rules

adopted by the board as prescribed in Chapters 4101:4-1 to 4101:4-10 of the Administrative Code, except as follows:

- (1) Boilers, pressure vessels, and stationary steam engines under federal control or subject to inspection under federal laws;
 - (2) Air tanks located on vehicles operating under the rules of other state authorities and used for carrying passengers, or freight;
 - (3) Air tanks installed on the right of way of railroads and used directly in the operation of trains;
 - (4) Pressure vessels that are under the regulation and control of the state fire marshal under Chapter 3737. of the Revised Code;
 - (5) Boilers and pressure vessels outside the scope of the applicable section of the "ASME Code for Boilers and Pressure Vessels" as referenced in rule 4101:4-3-01 of the Administrative Code;
 - (6) Historical steam boilers of riveted construction, preserved, restored, or maintained for hobby or demonstration use. In accordance with section 4104.33 of the Revised Code, these boilers ~~shall~~are to be repaired, altered, inspected and operated in compliance with Chapter 1301:3-4 of the Administrative Code, the rules adopted by the historical boilers licensing board.
- (B) All boilers and pressure vessels proposed for use in the state of Ohio, except those exempt in paragraph (A) of this rule ~~shall~~are to be inspected by an authorized inspector during fabrication and construction and upon completion for compliance with the rules of the board. The inservice inspections ~~shall~~are to be conducted by general and special inspectors in accordance with rules adopted by the superintendent in Chapter 1301:3-5 of the Administrative Code. The following boilers and pressure vessels ~~shall~~are to comply with the rules of the board for construction but ~~shall~~are not to be subjected to the superintendent's inspection requirements or contractor registration requirements prescribed in Chapter 1301:3-5 or 4101:4-7, respectively, of the Administrative Code:
- (1) Portable boilers or pressure vessels when located on farms and used solely for agricultural purposes;
 - (2) Low pressure boilers which are located in private residences or in apartment houses of less than or equal to five family units (these boilers are regulated by Chapters 4101:8-1 to 4101:8-44 of the Administrative Code known as the "Residential Code of Ohio" or Chapters 4101:2-1 to 4101:2-15 of the Administrative Code known as the "Ohio Mechanical Code");
 - (3) Pressure vessels containing only water under pressure for domestic supply purposes, including those containing air, the compression of which serves only as a cushion or airlift pumping system, when located in private residences or in apartment houses of less than or equal to five family units (these pressure vessels, hot water expansion tanks, and pressure tanks are regulated by the Chapters 4101:2-1 to 4101:2-15 of the Administrative Code known as the "Ohio Mechanical Code" and Chapters 4101: 3-1 to ~~4101:3-13~~4101:3-15 of the

Administrative Code known as the "Ohio Plumbing Code");

- (4) Portable boilers used in pumping, heating, steaming, and drilling, in the open field, for water, gas, and oil;
- (5) Portable boilers used in the construction of and repair to public roads, railroads, and bridges.
- (C) If the owner or user of any boiler disagrees with the inspector as to the necessity for shutting down a boiler or for making repairs or alterations to it, or taking any other measures for safety, the owner or user may appeal the decision of the inspector to the board of building appeals.
- (D) In the event of a conflict, the rules of the board adopted pursuant to section 3781.10 of the Revised Code and known as the "Ohio Building Code," the "Ohio Mechanical Code," and the "Ohio Plumbing Code" ~~shall~~ govern any ~~rule~~rules or standards adopted by the board pursuant to section 4104.02 of the Revised Code.
- (E) In any condition not covered by these rules, the applicable section of the "ASME Code for Boilers and Pressure Vessels" as referenced in rule 4101:4-3-01 of the Administrative Code for new installations ~~shall~~ apply when not inconsistent with the provisions of Chapter 4104. of the Revised Code. Should any paragraph, subparagraph, sentence, clause, phrase, provision, or exemption of these rules be declared unconstitutional or invalid for any reason, the invalidity ~~shall~~does not affect the remaining portions or paragraphs.

4101:4-2-02 Types and qualifications of inspectors.

- (A) Only an "Authorized Inspector" employed by an "Authorized Inspection Agency" ~~shall~~is permitted to conduct inspections of boilers and pressure vessels during construction and fabrication to determine compliance with the rules of the board.
- (B) Only a general or special inspector ~~shall~~ is permitted to conduct inservice periodic inspections for boilers and repair and alteration inspections of boilers and pressure vessels to determine compliance with the rules of the board.
- (C) An applicant for examination as an inspector of boilers and pressure vessels ~~shall~~is to be qualified as prescribed in the "National Board" publication "NB-263, Rules for National Board Inservice and New Construction Commissioned Inspectors" as referenced in rule 4101:4-3-01 of the Administrative Code.
- (D) The written examination administered by the superintendent ~~shall~~is to be the "National Board Commission Examination." The examination ~~shall be~~ is given four times each year, on the first Wednesday of March, June, September, and December.
- (E) The superintendent may allow an applicant to sit for the examination at an "On-Demand" location accepted by the "National Board" in accordance with "Part 2" of the "National Board" publication "NB-263, Rules for National Board Inservice and New Construction Commissioned

Inspectors" as referenced in rule 4101:4-3-01 of the Administrative Code.

4101:4-3-01 Accepted engineering practice and approved standards.

- (A) Where references are made in Chapters 4101:4-1 to 4101:4-10 of the Administrative Code to the applicable section of the "ASME Boiler and Pressure Vessel Code" or to other standards or publications, this rule identifies the specific edition of the code, standard, or publication that is adopted. Conformity to the applicable technical provisions, requirements, recommendations, and determinations in the codes, standards or other referenced publications adopted in "Table 4-3-01" of this rule, is prima-facie evidence of conformity with accepted engineering practice or with an approved standard.
- (B) The board of building standards adopts existing published standards by year of issue as shown in "Table 4-3-01" of the Administrative Code as well as amendments, supplements, and addenda subsequently published prior to issuance of the next edition by the same authority in accordance with section 4104.02 of the Revised Code.

Table 4-3-01

Authority	Edition Date	Designation	Title
ASME	2017 <u>2023</u>	BPVC -Section I (see footnote a)	<u>Rules for Construction of Power Boilers.</u>
ASME	2017 <u>2023</u>	BPVC -Section II	Material Specifications <u>Materials.</u> Part A-Ferrous. Part B-Non-Ferrous. Part C-Welding Rods, Electrodes and Filler Metals. Part D-Properties.
ASME	2017 <u>2023</u>	BPVC -Section III	<u>Rules for Construction of Nuclear Facility Components.</u>
ASME	2017 <u>2023</u>	BPVC -Section IV	<u>Rules for Construction of Heating Boilers.</u>
ASME	2017 <u>2023</u>	BPVC -Section V	Nondestructive Examination.
ASME	2017 <u>2023</u>	BPVC -Section VI	Recommended Rules for Care and Operation of Heating Boilers.

Table 4-3-01

ASME	2017 2023	BPVC -Section VII	Recommended Guidelines for the Care of Power Boilers.
ASME	2017 2023	BPVC -Section VIII	Rules for Construction of Pressure Vessels- Division 1.
ASME	2017 2023	BPVC -Section VIII	Rules for Construction of Pressure Vessels- Division 2-, Alternative Rules
ASME	2017 2023	BPVC -Section VIII	Pressure Vessels- Division 3-, Alternative Rules for Construction of High Pressure Vessels
ASME	2017 2023	BPVC -Section IX	Welding, Brazing, and Fusing Qualifications.
ASME	2017 2023	BPVC -Section X	Fiber-Reinforced Plastic Pressure Vessels.
ASME	2017 2023	BPVC -Section XI	Rules for Inservice Inspection of Nuclear Power Plant Reactor Facility Components.
ASME	2017 2023	BPVC	Code Cases-: Boilers and Pressure Vessels.
ASME	2016 2022	B 31.1	Power Piping.
ASME	2015 2021	CSD-1	"Controls and Safety Devices for Automatically Fired Boilers."
NFPA	2015 2023	NFPA 85	"Boiler and Combustion Systems Hazards Code"
National Board	2017 2023	NBIC - Part 3, Repairs and Alterations	National Board Inspection Code.

Table 4-3-01

National Board	Jul. 2012, Rev. 1	NB-27	A Guide for Blowoff Vessels.
National Board	Jul. 2017 <u>2023</u>	NB-263	Rules for Commissioned Inspectors (RCI-1).
National Board	Oct. 2016 Jul. 2020, Rev. 8.1.1.010	NB-371	Accreditation of Owner-User Inspection Organizations (OUIO).

Footnote a: For riveted construction, see "ASME, BPVC-Section I, Power Boilers, Part PR (1971 edition)."

4101:4-4-01 Design of boilers and pressure vessels.

- (A) All new boilers and pressure vessels proposed for use in the state of Ohio, except those exempt by division (A) of section 4104.04 of the Revised Code, ~~shall~~are to be designed in accordance with the applicable approved referenced standard(s) adopted in "Table 4101:4-3-01" of rule 4101:4-3-01 of the Administrative Code and other requirements as prescribed in rules 4101:4-4-01 to 4101:4-4-04 of the Administrative Code.
- (B) A boiler having the standard stamping of another state that has adopted rules of construction equivalent to those of Ohio may be accepted by the superintendent provided that the person desiring to install the boiler ~~shall make~~makes application to the superintendent for the installation and ~~shall include~~includes the manufacturers' data report covering the construction of the boiler.
- (C) All electric boilers ~~shall~~are to be wired and the shell grounded, in accordance with "NFPA 70, the National ~~Electric~~Electrical Code" referenced in rule 4101:1-35-01 of the Administrative Code.

4101:4-4-02 Maximum allowable working pressure of new boilers and pressure vessels.

- (A) The maximum allowable working pressure for boilers and pressure vessels built in accordance with the applicable section of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code ~~shall~~is to be as determined in the applicable approved referenced standard to which it is constructed and stamped. In no case ~~shall~~is the maximum allowable pressure permitted to exceed the pressure indicated by the manufacturer's identification stamped or cast upon the boiler or pressure vessel. Upon inspection of a boiler, if conditions are found which justify a reduction of the maximum allowable working pressure, the factor of safety shall be appropriately increased.

- (B) The maximum allowable steam working pressure for cast iron boilers, except for hot water boilers, ~~shall be~~is fifteen psig.

4101:4-4-03 Safety devices and controls.

- (A) All boilers and pressure vessels ~~shall~~are to be provided with the necessary safety appliances and controls that will prevent pressure and temperature from rising above the design limits. The required safety devices and controls ~~shall~~are to be as required in the applicable section of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code.
- (B) The operation of a boiler or pressure vessel without the required safety devices or controls is prohibited, except where alternate device(s) are provided for use on a temporary basis.
- (C) Any owner or operator who in any manner loads the safety valve or valves to a greater pressure than that allowed by the certificate of operation ~~shall be~~is subject to the penalty provided in section 4104.99 of the Revised Code.
- (D) The minimum safety or relief valve relieving capacity for electric boilers ~~shall be~~is 3.5 pounds of steam per hour for each kilowatt input.
- (E) The discharge of safety valves and other outlets ~~shall be installed~~is to be directed and terminated in such a manner so as not to endanger any person.
- (F) Replacement of existing safety devices and controls ~~shall~~is to comply with the requirements for new safety devices and controls as prescribed in the applicable section of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code.
- (G) When an owner wishes to install safety devices and controls which will enable a new or an existing boiler to be operated without continuous, manned attendance by a licensed operator, the requirements of paragraph (B)(4) or (B)(5) of rule 4101:4-10-01 of the Administrative Code ~~shall~~are to be met.

4101:4-4-04 Steam boiler blowoff systems.

- (A) The blowoff from boilers may be discharged directly to any place such as a lake, swamp, stream, sump, or open pit provided there is no hazard to life or property. Where a safe place of discharge is not available, a blowoff tank ~~shall~~is to be used. The tank ~~shall~~is to be designed to separate the flash steam from the water and ~~shall~~is to be flashed to a lower pressure system or vented to the atmosphere. The vent ~~shall~~is to be large enough to prevent a steam pressure greater than five psig in the blowoff tank. The water from the blowoff tank may be discharged into a building drain or building sewer provided the water temperature does not exceed one hundred forty

degrees Fahrenheit.

- (B) When a blowoff tank is elevated above the lowest point of a boiler, provisions ~~shall~~are to be made for draining water from the boiler.
- (C) The shell thickness of a blowoff tank ~~shall~~is to be not less than one-fourth inch and ~~shall~~is to be constructed for a pressure of not less than twenty-five per cent of the allowed pressure of the boilers connected to it for boilers up to and including four hundred psig. For boiler pressure greater than four hundred psig, use "Table 4-4-04(C)" for the blowoff tank allowable pressure. Construction of the blowoff tank ~~shall~~is to comply with section VIII, division 1, of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code and as modified in this rule.

Table 4-4-04(C)

Maximum allowable working pressure of boiler (psig)	Blowoff tank allowable pressure (psig)
3000	400
2250	325
1500	275
1000	200
750	165
500	125

- (D) Blowoff piping between the boiler blowoff valve and the blowoff tank or other safe place of discharge, where the pressure is approximately atmospheric and when there are no intervening valves, ~~shall~~is to be constructed in accordance with "Table 4-4-04(D)". All boiler blowoff pipe fittings ~~shall~~are to be fabricated of steel.

Table 4-4-04(D)

Boiler pressure (psig)	Piping pressure (psig)
1501 to 2000	900
901 to 1500	600
601 to 900	400
250 to 600	250
Below 250	150

- (E) In lieu of the design requirements of paragraphs (C) and (D) of this rule, the "National Board" publication entitled "NB-27, A Guide for Blowoff Vessels" as referenced in rule 4101:4-3-01 of the Administrative Code may be used for the design, construction, and arrangement of boiler blowoff equipment.

4101:4-4-05 Clearances.

When boilers are replaced or when new boilers are installed in either existing or new buildings, a minimum clear space of three feet shallis to be provided on the control and service sides of the boiler. All other sides shallare to comply with the boiler manufacturer's installation instructions for clearances to combustible materials. All boilers shallare to be so located that adequate space will be provided for the proper operation of the boiler and its appurtenances, for the inspection of all surfaces, tubes, water walls, economizer piping, valves, and other equipment, and for their necessary maintenance and repair.

4101:4-5-01 Boilers and pressure vessels of special design.

- (A) When a boiler or pressure vessel proposed for use in Ohio does not conform to all the provisions of the applicable section of the "ASME Boiler and Pressure Vessel Code" referenced in rule 4101:4-3-01 of the Administrative Code, application can be made to the board for legal use in Ohio by submitting, prior to fabrication, the following documents, sealed by a registered professional engineer holding a certificate issued under section 4733.14 of the Revised Code:
- (1) A written analysis detailing how the proposed boiler or pressure vessel does not conform to the requirements of the "ASME Boiler and Pressure Vessel Code";
 - (2) Detailed construction drawings;
 - (3) Materials specifications;
 - (4) Design calculations;
 - (5) Welding details and procedures, and procedure qualification tests (when applicable); and
 - (6) Detailed quality control procedures used in all phases of construction.
- (Note: All documents submitted shallare to be in the English language, and all dimensions, pressures, temperatures, and material properties shallare to be in the same units as used in the applicable section of the "ASME Boiler and Pressure Vessel Code" referenced in rule 4101:4-3-01 of the Administrative Code.
- (B) After receipt by the board, the documents listed above shallwill be reviewed by a registered professional engineer assigned or approved by the board. After review, the professional engineer shallwill make a recommendation to the board.
- (C) If the application is approved by the board, the boiler or pressure vessel shallis to be inspected during construction by an authorized inspector, tested as required by the applicable section of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code and in accordance with the conditions of the resolution issued by the board. If approved, the boiler or pressure vessel of special design shallis to be tagged with an "OHIO SPECIAL" serial number by a general inspector.
- (D) When an existing "Ohio Special" boiler or pressure vessel that has been approved by the board is

proposed to be repaired, reinstalled, or relocated, the work shallis to be performed in accordance with rule 4101:4-9-01 of the Administrative Code.

- (E) When an existing "Ohio Special" boiler or pressure vessel that has been approved by the board is proposed to be altered, the proposed alterations shallare to be documented by a registered design professional and evaluated and approved by the board, prior to the alteration, in the same manner as described in paragraphs (A) and (B) of this rule. If the alterations are approved by the board, the boiler or pressure vessel may be altered in accordance with the conditions of the resolution and, consistent with “Part 3” of the "NBIC", the original code of construction or the currently adopted "ASME Boiler and Pressure Vessel Code" referenced in rule 4101:4-3-01 of the Administrative Code. The boiler or pressure vessel shallis to be tested and inspected as required by the conditions of the resolution issued by the board.

4101:4-6-01 Construction and stamping of boilers and pressure vessels.

Unless exempt by rule 4101:4-2-01 of the Administrative Code,

- (A) All boilers and pressure vessels shallare to be constructed and tested in accordance with the applicable section(s) of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code.
- (B) All boilers and pressure vessels shallare to be inspected during construction and after completion by an authorized inspector to determine compliance with the applicable section of the "ASME Boiler and Pressure Vessel Code."
- (C) Unless exempt from stamping requirements by the "ASME Boiler and Pressure Vessel Code," after certification of the manufacturer's data report and acceptance by an authorized inspector, the manufacturer shallis to apply the appropriate "ASME" code stamp symbol to the boiler or pressure vessel indicating that the boiler or pressure vessel complies with all of the "ASME" code requirements that are prescribed in the applicable code section referenced in rule 4101:4-3-01 of the Administrative Code.
- (D) All boilers and pressure vessels shallare to be registered with the "National Board." In accordance with the "National Board" registration requirements, the original manufacturer's data report, properly executed and signed by both the manufacturer and an authorized inspector, shallis to be filed with the "National Board" for permanent retention.
- (E) The manufacturer, in accordance with the "National Board" registration requirements, shallis also to apply the "National Board" registration number to the boiler or pressure vessel.

4101:4-7-01 Contractor registration and boiler permits.

Unless exempt by paragraph (B) of rule 4101:4-2-01 of the Administrative Code,

- (A) Every contractor or owner ~~shall~~ is to be registered with the division of industrial compliance before installing or making major repairs or alterations to any boiler. Applications for registration will be obtained from the division of industrial compliance on forms prescribed by the superintendent.
- (B) All contractors or owners performing boiler installations, repairs, or alterations ~~shall~~ are to register annually with the superintendent. The annual registration processing fee ~~shall be~~ is fifty dollars.
- (C) Every contractor or owner ~~shall~~ is to apply for and obtain a permit from the division of industrial compliance prior to making the installation of any boiler. The application ~~shall~~ is to be made on forms prescribed by the superintendent. A permit fee of one-hundred dollars per boiler ~~shall~~ is to be submitted with each permit application form.
- (D) Unless the contractor or owner obtains a "National Board "R" Certificate of Authorization" as prescribed in "Part 3" of the "NBIC" referenced in rule 4101:4-3-01 of the Administrative Code, every contractor or owner ~~shall~~ is to apply for and obtain a permit from the division of industrial compliance prior to making a routine repair that involves welding or a major repair to an existing boiler. The application ~~shall~~ is to be made on forms prescribed by the superintendent. A permit fee of one-hundred dollars per boiler ~~shall~~ is to be submitted with each permit application form.
- (E) Every contractor or owner performing boiler alterations ~~shall~~ is to obtain a "National Board "R" Certificate of Authorization" as prescribed in "Part 3" of the "NBIC" referenced in rule 4101:4-3-01 of the Administrative Code. The contractor or owner is not required to apply for or obtain a permit from the division of industrial compliance. However, in accordance with "Part 3" of the "NBIC" and rule 4101:4-9-01 of the Administrative Code, authorization from an authorized inspector ~~shall~~ is to be obtained prior to making the proposed alteration.

4101:4-8-01 Inspection of boilers.

- (A) Unless exempt by paragraph (B) of rule 4101:4-2-01 of the Administrative Code, upon completion of an installation and in accordance with rules 1301:3-5-01 to 1301:3-5-09 of the Administrative Code, all boilers ~~shall~~ are to be inspected by a general or special inspector who holds an Ohio commission issued by the superintendent. Each boiler ~~shall~~ will be assigned a state of Ohio serial number obtained from the superintendent and affixed by the inspector. Unless otherwise authorized by the superintendent, the boilers ~~shall~~ are not to be operated until a certificate of operation has been issued by the superintendent.
- (B) In accordance with division (~~FG~~) of section 4104.18 of the Revised Code, in addition to any fee assessed and collected directly from the owner or user for the inspection and issuance of a certificate of operation, the superintendent will collect, directly from the owner or user, a board

assessed fee of three dollars and twenty-five cents for each certificate of operation or renewal thereof and for each inspection conducted.

- (C) The three dollar and twenty-five cent assessment fee collected directly from the owner or user on behalf of the board ~~shall~~ is to be remitted to the board when deposited by the division of industrial compliance pursuant to section 121.084 of the Revised Code. The superintendent ~~shall~~ will report to the board the amounts remitted not later than one month following the first full month's collection and then monthly thereafter.
- (D) Before inspection or any other work is started on an electric boiler, ~~it shall~~ the boiler is to be isolated electrically. An appropriate warning tag ~~shall~~ is to be posted on the disconnect.
- (E) If, in the judgment of the inspector, it is advisable to apply a hydrostatic test to a boiler or pressure vessel, the owner or user ~~shall~~ is to prepare for and apply the test, which ~~shall~~ will be witnessed by the inspector.

4101:4-9-01 Existing boilers and pressure vessels.

- (A) All existing boilers and pressure vessels and the associated equipment, controls, devices, and safeguards ~~shall~~ are to be maintained in a safe and sanitary condition, in good working order, and free of leaks and defects. The owner or the owner's designated agent ~~shall be~~ is responsible for the maintenance of such boilers and pressure vessels and associated equipment, controls, devices, and safeguards.
- (B) The rules of the board ~~shall~~ are not to be retroactively applied to existing boilers or pressure vessels that are not otherwise being altered, repaired, reinstalled, or relocated. Portions of a boiler or pressure vessel not altered or repaired and not affected by an alteration or repair are not required to comply with the code requirements for a new boiler or pressure vessel.
- (C) Routine boiler repairs such as piping or tube replacement or repairs considered general maintenance may be made without permit or inspection. However, routine repairs that involve welding do require a permit and approval must be obtained from a general or special inspector prior to performing the repair. In the case where the contractor or owner making the routine repair has obtained a "National Board "R" Certificate of Authorization", the authorized inspector ~~shall~~ is to authorize the routine repair prior to the work being performed. If the repair requires welding, ~~it shall~~ the welding is to be performed in accordance with the provisions of section IX of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code.
- (D) Where a major repair or alteration (including a re-rating) is necessary or desired on an existing boiler which bears the stamp of the appropriate "ASME" symbol or which is stamped with a state of Ohio boiler number, the repair or alteration ~~shall~~ is to comply with the requirements of "Part 3" of the "NBIC" as referenced in rule 4101:4-3-01 of the Administrative Code. The repair or alteration ~~shall~~ is to meet the requirements for the conditions under which it will be operated.

- (1) In accordance with rule 4101:4-7-01 of the Administrative Code, unless the contractor or owner has obtained a "National Board "R" Certificate of Authorization", all contractors or owners ~~shall~~ are to apply for a permit from the division of industrial compliance to make proposed repairs and the repairs ~~shall~~ are to be approved by a special or general inspector. A repair report, executed and signed by the special or general inspector, ~~shall~~ is to be filed with the superintendent on forms provided.
- (2) In accordance with "Part 3" of the "NBIC," contractors or owners performing boiler alterations ~~shall~~ are to obtain a "National Board "R" Certificate of Authorization" prior to making any alterations. All alterations ~~shall~~ are to be authorized and approved by an authorized inspector.
- (E) Where a major repair or alteration (including a re-rating) is necessary or desired on an existing boiler or pressure vessel which does not bear the appropriate "ASME" symbol stamp or which is not stamped with a state of Ohio boiler number, the boiler or pressure vessel ~~shall~~ is to be evaluated by the superintendent and required to meet the applicable requirements of the "ASME Boiler and Pressure Vessel Code" referenced in rule 4101:4-3-01 of the Administrative Code. Otherwise, the boiler or pressure vessel ~~shall~~ is to be retired from use.
- (F) Repairs made to an existing "Ohio Special" boiler or pressure vessel ~~shall~~ are to be done in accordance with paragraph (C), (D)(1), or (H)(1) of this rule, as applicable.
- (G) Alterations, including re-ratings, made to an existing "Ohio Special" boiler or pressure vessel ~~shall~~ are to be approved, prior to the alteration, by the board of building standards in accordance with the special procedure outlined in rule 4101:4-5-01 of the Administrative Code for boilers and pressure vessels of special design.
- (H) Where a major repair or alteration (including a re-rating) is necessary or desired on an existing pressure vessel which bears the stamp of the appropriate "ASME" symbol, the repair or alteration ~~shall~~ is to comply with the requirements of "Part 3" of the "NBIC" as referenced in rule 4101:4-3-01 of the Administrative Code. The repair or alteration ~~shall~~ is to meet the requirements for the conditions under which it will be operated.
- (1) Unless the contractor or owner has obtained a "National Board "R" Certificate of Authorization", all contractors or owners ~~shall~~ are to notify the division of industrial compliance prior to making repairs to an existing pressure vessel and the repairs ~~shall~~ are to be approved by a special or general inspector. A repair report, executed and signed by the special or general inspector, ~~shall~~ is to be filed with the superintendent on forms provided.
- (2) In accordance with "Part 3" of the "NBIC", contractors or owners performing pressure vessel alterations ~~shall~~ are to obtain a "National Board "R" Certificate of Authorization" prior to making any alterations. All alterations ~~shall~~ are to be authorized and approved by an authorized inspector.
- (I) Whenever repairs are made to fittings, safety devices, appliances, or controls or it becomes necessary or desirable to replace them, the work ~~shall~~ is to comply with the requirements for new installations as prescribed in the applicable section of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code. When an owner wishes to install safety devices and controls which will enable an existing boiler to be operated without

continuous, manned attendance by a licensed operator, the requirements of paragraph (B)(4) or (B)(5) of rule 4101:4-10-01 of the Administrative Code ~~shall~~ are to be met.

- (J) An existing stationary boiler or pressure vessel which bears the appropriate "ASME" symbol or which is stamped with a state of Ohio boiler number may be reinstalled or relocated within Ohio, provided that the installation complies with the applicable section of the "ASME Boiler and Pressure Vessel Code" as referenced in rule 4101:4-3-01 of the Administrative Code and an inspection is made by a special or general inspector prior to operation. The fittings and appliances ~~shall~~ are to comply with the requirements for a new installation.
- (K) A secondhand boiler or pressure vessel stamped with the appropriate "ASME" symbol or having the standard stamping of another state that has adopted rules of construction equivalent to those of Ohio may be installed for use in the state of Ohio provided that application is made for the installation, the manufacturer's data report, indicating that the boiler or pressure vessel was inspected during construction by an authorized inspector, is filed in the office of the superintendent, and an inspection is made by a special or general inspector prior to operation. The inspector ~~shall~~ is to submit a report to the superintendent which contains a facsimile of the code stamping, a statement concerning any corrosion or other deteriorating conditions and the extent and location of any welded or riveted repairs. Upon approval of a secondhand boiler by the superintendent, a certificate of operation ~~shall~~ is to be issued.
- (L) Except as permitted in paragraph (K) of this rule, an existing boiler or pressure vessel that does not bear the appropriate "ASME" symbol, was not registered with the "National Board," does not have a state of Ohio boiler number stamped upon it, or does not have an "Ohio Special" serial number tagged upon it is prohibited from reinstallation or relocation within the state of Ohio.
- (M) The maximum allowable steam working pressure for cast iron boilers, except for hot water boilers, ~~shall~~ is to be fifteen psig.
- (N) The maximum allowable working pressure on the shell or drum of an existing nonstandard boiler ~~shall~~ is to be determined by the strength of the weakest section of the structure, computed from the thickness of the plate, the tensile strength of the plate, the efficiency of the longitudinal joint or the tube ligaments, the inside diameter of the weakest course and the factor of safety allowed by these rules.

(S)(t)(E)/(R)(F) = Maximum allowable working pressure, psig.

Where:

S = ultimate tensile strength of shell plates, psi.

When the ultimate tensile strength, "S", of steel or wrought-iron shell plates is not known, it ~~shall~~ is to be taken as fifty-five thousand psi for steel and forty-five thousand psi for wrought-iron.

t = minimum thickness of shell plate, in weakest course, inch.

E = efficiency of longitudinal joint.

For riveted construction, "E" ~~shall~~ is to be determined by rules given in paragraph "PR-15" of the 1971 edition of the "ASME Boiler and Pressure Vessel Code, section I."

For tube ligaments, "E" ~~shall~~ is to be determined by rules "PG-52" or, "PG-53" of the "ASME Boiler and Pressure Vessel Code, section I" and "PR-25", of the 1971 edition of the "ASME Boiler and Pressure Vessel Code, section I."

R = inside radius of the weakest course of the shell or drum in inches.

F = factor of safety permitted.

- (1) When computing the ultimate strength of rivets in shear, the following values in pounds per square inch of the cross-sectional area of the rivet shank (after driving) ~~shall~~ is to be used:

Strength of existing rivets in shear

Type of rivet	Strength
Iron rivet in single shear	38,000
Iron rivet in double shear	76,000
Steel rivets in single shear	44,000
Steel rivets in double shear	88,000

- (2) When the diameter of the rivet holes in the longitudinal joints of a boiler is not known, the diameter and cross-sectional area of rivets, after driving, may be ascertained from the following table or by cutting out one rivet in the body of the joint:

Sizes of rivets in inches based on plate thickness

Thickness of plate, inches.	1/4	9/32	5/16	11/32	3/8	13/32
Diameter of rivet after driving, inches.	11/16	11/16	3/4	3/4	13/16	13/16
Thickness of plate, inches.	7/16	15/32	1/2	9/16	5/8	-
Diameter of rivet after driving, inches.	15/16	15/16	15/16	17/16	17/16	-

- (3) The resistance of steel to crushing ~~shall~~ is to be taken as ninety-five thousand psi.
- (4) The lowest factor of safety permissible on existing installations ~~shall~~ is to be 4.5 excepting for horizontal return tubular boilers having continuous longitudinal lap seams more than twelve feet in length where the factor of safety ~~shall~~ is to be 8, and when this latter type of boiler is removed from its existing setting, it ~~shall~~ is not to be reinstalled for pressure in excess of fifteen psig. Reinstalled or secondhand nonstandard boilers ~~shall~~ are to have a minimum factor of safety of 6 when the longitudinal seams are of lap riveted construction, and a minimum factor of 5 when the longitudinal seams are of butt and double strap construction. A boiler constructed of wrought iron ~~shall~~ is to have a factor of safety of 7. Upon inspection of the boiler, if conditions are found which justify a reduction of the safe working pressure, the factor of safety as stated above ~~shall~~ is to be appropriately increased.
- (O) The maximum allowable working pressure of a nonstandard low pressure steam boiler ~~shall~~ is not to exceed fifteen psig.
- (P) The maximum allowable working pressure of a nonstandard boiler constructed principally of cast iron or constructed of a cast iron shell or heads and steel tubes ~~shall~~ is not to exceed thirty psig for hot water service.
- (Q) The maximum allowable working pressure of a nonstandard water tube boiler, the tubes of which are secured to cast iron or malleable iron headers, or which have cast iron mud drums, ~~shall~~ is not to exceed one hundred sixty psig for steam service.
- (R) If, in the judgment of the inspector, a low pressure boiler is unsafe for operation at the pressure previously approved, the pressure ~~shall~~ is to be reduced, proper repair made, or the boiler retired from service.
- (S) Nonstandard pressure vessels, except those exempt in section 4104.04 of the Revised Code and paragraph "U-1" of the "ASME Boiler and Pressure Vessel Code, section VIII", are prohibited for use in excess of fifteen psi internal or external pressure.
- (T) Any owner or operator who in any manner loads the safety valve or valves to a greater pressure than that allowed by the certificate of operation ~~shall be~~ is subject to the penalty provided in section 4104.99 of the Revised Code.

4101:4-10-01 Licensure and attendance requirements of operators.

- (A) In accordance with section 4104.05 of the Revised Code, no person ~~shall~~ is to operate a low pressure steam boiler that has more than three hundred sixty square feet of heating surface, a power steam boiler that has more than three hundred sixty square feet of heating surface, or a stationary steam engine operating at more than thirty horsepower, unless one of the following applies to that person:
- (1) The person holds the required license as specified in section 4104.05 of the Revised Code, or
 - (2) The person is working under the direct supervision of a person holding the required license as specified in section 4104.05 of the Revised Code.

- (B) The operator described in paragraph (A) of this rule ~~shall~~ is to maintain continuous, manned attendance during all times of operation of a steam boiler that has more than three hundred sixty square feet of heating surface or a stationary steam engine operating at more than thirty horsepower, except as follows:
- (1) The continuous, manned attendance by the operator during all times of operation of such steam boiler or stationary steam engine may occur from a central control room on the premises when the steam boiler or stationary steam engine can be monitored, controlled, and shut down from that central control room by the operator and is equipped with manual operational resets.
 - (2) The steam boiler may be operated without continuous, manned attendance for a maximum length of time equal to the time it takes for the boiler to go into a low water condition when subjected to an annual evaporation test conducted in accordance with the "ASME Boiler and Pressure Vessel Code, Section VI, 7.05 (H)" referenced in rule 4101:4-3-01 of the Administrative Code.
 - (3) The continuous, manned attendance by the operator during all times of operation of a non-solid-fuel-fired steam boiler or stationary steam engine is not required when the superintendent of the division of industrial compliance has approved a site-specific, detailed written plan to provide for automated electronic monitoring of the steam boiler or stationary steam engine which utilizes controls that contain all operational functions, are equipped with manual operational resets, and are labeled for the intended operation, provided that all of the following apply:
 - (a) The control equipment ~~must be~~ is located within the same complex or production facility premises;
 - (b) A person licensed under section 4104.19 of the Revised Code is present at all times within the same complex or production facility premises and is available to respond to an emergency condition when summoned by the automated electronic monitoring system;
 - (c) A secondary means of alerting such licensed person is within the same complex or production facility premises in the event of failure of the primary electronic monitoring system;
 - (d) A qualified individual as defined in rule 4101:4-1-01 of the Administrative Code performs annual operational tests on the automated electronic monitoring system to verify that the system is maintained in accordance with that original manufacturer specification; and
 - (e) A copy of such dated and signed service report or checklist, listing each control and safety device tested with the manufacturer's name, model number, set point, and actual operational test point is provided to the superintendent of the division of industrial compliance upon request. Failure to produce such service report may result in the issuance of an adjudication order within the meaning of Chapter 119. of the Revised Code.

- (4) The continuous, manned attendance by the operator during all times of operation of a non-solid-fuel-fired steam boiler having a fuel input rating of less than 12,500,000 BTU/hr is not required when an automated electronic control system meeting the requirements of "ASME CSD-1" referenced in rule 4101:4-3-01 of the Administrative Code is utilized, provided that all of the following requirements have also been met:
- (a) The boiler manufacturer and the installing contractor ~~shall complete~~ completes and ~~sign~~ signs a certification report (similar to the report shown in Appendix C of ASME CSD-1) for each boiler. The certification report ~~shall~~ is to meet the requirements of Section CG-510 of the ASME CSD-1 and ~~shall~~ is to identify the manufacturer, model number, and operational test date for each specific boiler control and safety device and certify that each control and safety device was installed and tested in accordance with the manufacturer's installation instructions and the ASME CSD-1.
 - (b) The installing contractor, who ~~shall~~ is to be registered in accordance with rule 4101:4-7-01 of the Administrative Code, ~~shall~~ is to obtain and provide to the owner or user the operating, testing, servicing, and cleaning instructions for the controls and safety devices. Additionally, the installing contractor ~~shall~~ is to provide to the owner or user the complete wiring and piping diagrams and a written precaution that the annual operating, testing, and servicing of the controls and safety devices is to be performed only by a qualified individual. The contractor ~~shall~~ is to obtain a receipt from the owner or user for the delivery of these instructions.
 - (c) The certification report and the receipt described in paragraphs (B)(4)(a) and (B)(4)(b) of this rule ~~shall~~ are to be submitted to the superintendent prior to the required inspection and issuance of the certificate of operation prescribed in rule 4101:4-8-01 of the Administrative Code. Failure to submit this documentation may result in the issuance of an adjudication order within the meaning of Chapter 119. of the Revised Code.
 - (d) The owner or user ~~shall~~ is to develop, coordinate, and implement a preventative maintenance program and ensure that the employee responsible for maintaining the boiler is trained, knowledgeable, and competent to operate and maintain such boiler, controls, and safety devices. The maintenance program ~~shall~~ is to be consistent with the manufacturer's recommendations and ~~shall~~ is to include regular inspections and operational testing for the boiler controls and safety devices. Annual inspection and operational testing ~~shall~~ is to be performed and documented by a qualified individual as defined in rule 4101:4-1-01 of the Administrative Code. Daily, weekly, monthly, and semi-annual inspections and operational testing, as outlined by the manufacturer and as recommended in Appendix D of the ASME CSD-1, ~~shall~~ is to be performed and documented by an employee who has been trained, is knowledgeable, and is competent to operate and maintain such boiler, controls, and safety devices. The maintenance records ~~shall~~ are to identify the manufacturer, model number, set point, the operational tests performed, the operational test date, the inspection results, and who performed the tests or inspection for each specific boiler control and safety device. The maintenance records ~~shall~~ are to be made available to the inspector for review during the certificate inspection. Failure to provide the required maintenance records may result in the issuance of an adjudication order within the meaning of Chapter 119. of the Revised Code.

- (5) The continuous, manned attendance by the operator during all times of operation of a non-solid-fuel-fired steam boiler having a fuel input rating of greater than or equal to 12,500,000 BTU/hr and meeting the requirements of "NFPA 85" referenced in rule 4101:4-3-01 is not required when an automated electronic control system is utilized meeting the requirements of the ASME CSD-1 referenced in rule 4101:4-3-01 of the Administrative Code, provided that all of the following requirements have also been met:
- (a) The certification report, wiring diagrams, instructions, maintenance, and testing requirements for the control system outlined in paragraphs (B)(4)(a) to (B)(4)(d) of this rule ~~shall~~ apply.
 - (b) Prior to installation of the boiler(s), the owner ~~shall~~ is to submit a detailed, written, process hazard analysis (PHA) to the superintendent of industrial compliance that identifies and evaluates the hazards associated with the unattended operation of the boiler and justifies the method(s) proposed to address the hazards. The analysis ~~shall~~ is to be prepared and sealed by a registered professional engineer holding a certificate issued under section 4733.14 of the Revised Code and ~~shall~~ is to identify possible incident scenarios, the proposed protection/solution for each scenario, and any such additional information as determined necessary by the superintendent. The PHA ~~shall~~ is to be reviewed by the owner, updated at least every five years, and submitted to the superintendent for review and filing. Failure to provide the required PHA may result in the issuance of an adjudication order within the meaning of Chapter 119. of the Revised Code.