**Date Distributed: January 26, 2026**

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

# NATIONAL BOARD INSPECTION CODE SUBCOMMITTEE INSTALLATION

# MINUTES

Meeting of January 14, 2026
New Orleans, LA

The National Board of Boiler & Pressure Vessel Inspectors
1055 Crupper Avenue
Columbus, Ohio 43229-1183
Phone: (614) 888-8320
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1. **Call to Order**

   The meeting was called to order by chair Don Patten at 8:00 a.m. Central Time in Canal BC on the 1st floor of the hotel.

2. **Introduction of Members and Visitors** A list of attendees can be found on Attachments page 1.

3. **Check for a Quorum--**Quorum Confirmed

4. **Awards/Special Recognition**

5. **Announcements**

   - This meeting marks the end of Cycle C for the 2027 NBIC edition.
   - The National Board will be hosting a reception on Wednesday evening from 5:30 p.m. to 7:30 p.m. at The Hard Rock Café on Bourbon Street.
   - The National Board will be hosting breakfast and lunch on Thursday for those attending the Main Committee meeting. Breakfast will be served from 7:00 a.m. to 8:00 a.m. in the Atrium on the 2nd floor of the hotel, and lunch will be served at the same location from 11:30 a.m. to 12:30 p.m.
   - Meeting schedules, meeting room layouts, and other helpful information can be found on the National Board website under the **NBIC** tab → NBIC Meeting Information.
   - Remember to add any attachments that you'd like to show during the meeting (proposals, reference documents, powerpoints, etc.) to the NBIC SharePoint site (nationalboard.sharepoint.com/sites/NBIC) **prior to the meeting**.
     - Note that access to the NBIC SharePoint site is limited to committee members only.
     - ALL powerpoint attachments/presentations must be sent to the NBIC Secretary for approval prior to the meeting.
     - Contact Jonathan Ellis (*nbicsecretary@nbbi.org*) for any questions regarding NBIC SharePoint access.
   - When possible, please submit proposals in Word format showing "strike through/underline." Project Managers: please ensure any proposals containing text from previous NBIC editions are updated with text from the most current edition.
   - If you'd like to request a new Interpretation or Action item, do so on the National Board Business Center.
     - Anyone, member or not, can request a new item.
   - As a reminder, anyone who would like to become a member of a group or committee:
     - Should attend at least two meetings prior to being put on the agenda for membership consideration. The nominee will be on the agenda for voting during their third meeting.
     - The nominee must submit the formal request along with their resume to the NBIC Secretary **PRIOR TO** the meeting. *nbicsecretary@nbbi.org*
     - If needed, we can also create a ballot for voting on a new member between meetings.
   - Thank you to everyone who registered online for this meeting. The online registration is very helpful for planning our reception, meals, room setup, etc. It is also a good way to make sure we have the most up-to-date contact information. Please continue to use the online registration for each meeting.
   - Review of new Code of Conduct powerpoint

6. **Adoption of the Agenda --**One item I25-86 was added to the agenda. A motion was made and seconded to adopt the amended agenda. A vote was taken and the motion unanimously passed.

7. **Approval of the Minutes of the July 2025 Meeting**

   A motion was made and seconded to approve the minutes from the July 2025 meeting. A vote was taken and the motion unanimously passed.

**8. Review of Rosters (Attachment Page 1)**

**a. Membership Nominations**

Mr. Ed Verderose (Manufacturers) and Mr. Steve Schneeberger (AIAs) are interested in becoming a member of **Subgroup Installation**. A motion was made and seconded to appoint Mr. Verderose and Mr. Schneeberger to Subgroup Installation. After discussion a vote was taken and the motion unanimously passed.

**b. Membership Reappointments**

The following **SG Installation** memberships are up for reappointment: Mr. Todd Creacy, Mr. Matt Downs, and Mr. Stanley Konopacki. A motion was made and seconded to reappoint Mr. Creacy, Mr. Downs, and Mr. Konopacki to Subgroup Installation. After discussion a vote was taken and the motion unanimously passed.

**9. Presentations--Proof Testing (Teams Part 3 – Melissa Wadkinson)**

**10. Other Committee Items Related to Installation**

**a. R&A**

**i. Item 24-18** – Definition of Controlled Fill (P. Gilston as PM)

**b. PRD**

**i. Item NB15-0315** – Review isolation valve requirements in Part 1, 4.5.6 and 5.3.6 – D. DeMichael (PM).

**ii. Item 19-83** – Address Alternate Pressure Relief Valve Mounting Permitted by ASME CC2887-1 – D. Marek (PM). **Item passed PRD SG and SC want R&C letter ballot.**

**iii. Item 24-91** – Require means to prevent safety valve discharge piping blockage for LCDSV (Part 4).

**11. Interpretations**

| **Item Number: 25-46** | **NBIC Location: Part 1, 2.8.4** | **Attachments page 2** |
|---|---|---|

**General Description:** Pressure Limit Control Functionality and Construction

**Subgroup:** SG Installation

**Task Group:** J. Choitz (PM), S. Konopacki, D. Patten, T. Clark

**Explanation of Need:** Power boilers are manufactured with many different maximum allowable working pressures, yet there is not a similar variety of pressure controls to match. The current wording in NBIC does not make it clear if "constructed to prevent a setting" means it must be impossible for a pressure control to be set to a pressure above the boiler's MAWP, or if a non-permanent limitation device (such as a set screw, mechanical stop, electronic limit, locking device, or tamper seal) may be used to ensure the control is not inadvertently set to a pressure above MAWP.

**January 2026 Meeting Action: Proposal**

A motion was made and seconded to accept the committee's question and reply. After discussion a vote was taken and the motion unanimously passed.

**Item Number: 25-56** **NBIC Location: Part 1, 1.6.4** **No attachment**

**General Description:** Ladders and Runways

**Subgroup:** SG Installation

**Task Group:** None assigned.

**Explanation of Need:** There is overlap between the NBIC and OSHA regarding ladders and runways and there needs to be guidance for when these conflict with each other.

**January 2026 Meeting Action: Proposal**

A motion was made and seconded to close this item with no action and provide a consulting response to the inquirer.

**Item Number: 25-67** **NBIC Location: Part 1, 3.8.2.4 c)** **No Attachment**

**General Description:** Forced Flow Steam Generator low-water fuel cutoff

**Subgroup:** SG Installation

**Task Group:** None assigned.

**Explanation of Need:** Urgently needed due to inspector not allowing startup of new boiler referring to 2.8.5 that is impossible to meet for a forced flow steam generators with no fixed water line that is used as a heating boiler.

**January 2026 Meeting Action: Proposal**

A motion was made and seconded to close this item with no action and provide a consulting response to the inquirer. It should be noted that Item 25-78 was opened to provide guidance.

**Item Number: 25-86** **NBIC Location: Part 1, 2.7.5 d)** **Attachments page 3**

**General Description:** Installation of Automatic Bottom Blowdown (Blowoff) Valve

**Subgroup:** SG Installation

**Task Group:** D. Patten (PM), R. Adams, S. Konopacki

**Explanation of Need:** There is a lack of understanding on the in-service side regarding boiler installations with an automatic bottom blowoff. The users are then leaving the required two manually blowoff valves in the open position.

**January 2026 Meeting Action: Proposal**

A motion was made and seconded to accept the committee's question and reply. After discussion a vote was taken and the motion unanimously passed.

**12. Action Items**

| Item Number: 22-28 | NBIC Location: Part 1 | No Attachment |
|---|---|---|

**General Description:** Pool Heater requirements and definition

**Subgroup:** SG Installation

**Task Group:** J. Kleiss (PM), R. Spiker, T. Creacy, and M. Byrum

**Explanation of Need:** The NBIC Installation and Inspection Codes do not have a definition for pool heaters. There is potential for confusion regarding which NBIC requirements, if any, should apply to pool heaters.

**January 2026 Meeting Action: Progress Report**

The proposal was updated based on comments received. Proposal will be reviewed for PRD requirements, and an attempt will be made to provide reference to existing paragraphs instead of copying requirements into pool heater section.

| Item Number: 23-67 | NBIC Location: Part 1, 4.4.2 | No Attachement |
|---|---|---|

**General Description:** Pressure Gage Ranges

**Subgroup:** SG Installation

**Task Group:** J. Choitz (PM), M. Toth, M. Downs, R. Smith

**Explanation of Need:** Update pressure gage requirements to reflect industry practice and common ranges. Also, to allow for the use of gage overpressure protectors, which the current wording does not. For systems with an MAWP that greatly exceeds normal operating pressure, it is sometimes necessary to use a gage with a lower scale so that the gauge reads in the middle third of its scale during normal operation. In such a situation, a gage overpressure protector is installed upstream of the gage.

**January 2026 Meeting Action: Progress Report**

A task group was formed to work on this item.

| Item Number: 24-05 | NBIC Location: Part 1, New Supplement | No Attachment |
|---|---|---|

**General Description:** Add Heat Pump Water Heater & Heat Pump Hydronic Heater Supplement

**Subgroup:** SG Installation

**Task Group:** J. Kleiss (PM), Bryan Ahee, R. Troutt, T. Creacy, M. Watkinson, J. Mirjalali

**Explanation of Need:** Heat pump water heating and hydronic heating are growing in prevalence. Guidance for installation and inspection of these products is needed.

**January 2026 Meeting Action: Progress Report**

Work continues on this item. Item 25-49 was opened to handle the definitions in proposal. Item will be expanded to look at requirements for all electric boilers.

| Item Number: 24-26 | NBIC Location: Part 1, 3.7.8 | No Attachment |
|---|---|---|

**General Description:** NBIC Requirements for ASME Modular Water Heaters

**Subgroup:** SG Installation

**Task Group:** R. Spiker (PM), M. Byrum, J. Kleiss

**Explanation of Need:** ASME Section IV added requirements in the 2023 Edition for modular water heaters. The NBIC currently includes requirements for modular steam-heating and hot-water heating boilers, but not for modular water heaters.

**January 2026 Meeting Action: Progress Report**

Work continues on this item.

**Update:** A proposal was balloted to the Subgroup, but the ballot failed with 8 approval votes and 7 disapproval votes.

| Item Number: 24-56 | NBIC Location: Part 1, S3.6.1 | No Attachment |
|---|---|---|

**General Description:** LCDSV Systems: Add Table and Figure

**Subgroup:** SG Installation

**Task Group:** M. Byrum (PM), R. Black

**Explanation of Need:** In accordance with the NBIC Policy For Metrication, metric units need to be shown alongside US customary units. Table S3.6.1 and Figure S3.6.1-b both show only US customary units. I recommend adding a Table S3.6.1M and Figure S3.6.1-bM to show metric units. I've also included some additional editorial recommendations.

**January 2026 Meeting Action: Close with no action**

A motion was made and seconded to close this item with no action due to the fact that the revisions have been completed and are already in the 2025 edition. After discussion a vote was taken and the motion unanimously passed.

| Item Number: 24-102 | NBIC Location: Part 1, 1.6.9 | No Attachment |
|---|---|---|

**General Description:** Strengthen requirements for Carbon monoxide monitoring

**Subgroup:** SG Installation

**Task Group:** Jim Byrum (PM) and all members SG Installation, Steve Schneeberger, Bryan Ahee, V. Newton

**Explanation of Need:** Approximately 50 to 75 percent of the Chief Boiler Inspectors have requested some version of the proposed text above to be included in the NBIC Part 1. Since this has not happened, in many jurisdictions the Chief Inspector has had to include requirements for interlocking Carbon Monoxide detectors with boilers to secure the burners when the detector senses CO. The NBIC is a Health and Safety Code and therefore should provide requirements that prevent the many injuries and deaths the Chief Boiler Inspectors across the U.S. have had to investigate.

**January 2026 Meeting Action: Letter Ballot to Subgroup + Review & Comment to Subcommittee**

A revised proposal will be letter balloted to Subgroup with review and comment ballot to Subcommittee.

| Item Number: 25-03 | NBIC Location: Part 1, 1.6.1, 2.7.5 & 3.7.7.1 | No Attachment |
|---|---|---|

**General Description: Create** uniformity between sections on requirements for drains and blowoff pipes

**Subgroup: SG** Installation

**Task Group:** T. Clark (PM), J. Choitz, R. Spiker, R. Adams

**Explanation of Need:** Create uniformity between sections on requirements for drains and blowoff pipes

**January 2026 Meeting Action: Progress Report**

Work continues on this item. A revised proposal based on comments received from letter ballot will be ready for the July meeting.

| Item Number: 25-07 | NBIC Location: Part 1, S5.7.6 h) | No Attachment |
|---|---|---|

**General Description:** Organic fluid relief valves are installed with discharge to 55-gallon drum

**Subgroup:** SG Installation

**Task Group:** D. Patten (PM)

**Submitted by:** V. Scarcella

**Explanation of Need:** A 55-gallon drum is not designed for the temperatures or pressures of a relief valve discharge

**January 2026 Meeting Action: Letter Ballot to Subgroup PRD**

Item passed Subgroup and Subcommittee Installation in July 2025 and needs to be letter balloted to Subgroup and Subcommittee PRD prior to going to Main Committee for action.

| Item Number: 25-24 | NBIC Location: Part 1, 3.8.1.5 and 3.8.2.4 | No Attachment |
|---|---|---|

**General Description:** Clearly state no time delay on the flow switches on a loss of flow.

**Subgroup:** SG Installation

**Task Group:** H. Berny (PM), S. Konopacki, J. Choitz, J. Byrum, J. Kleiss

**Submitted by:** T. Bolden

**Explanation of Need:** One of the primary causes of boiler failure is a low water condition. Time delays in testing these safety controls can complicate their assessment and will not mitigate the failure rates associated with low water conditions. Note this also needs to apply to flow switches on forced flow units.

**January 2026 Meeting Action: Progress Report**

Work continues on this item.

**13. New Items:**

| Item Number: 25-45 | NBIC Location: Part 1, 3.8.2.3 | Attachments pages 4-5 |
|---|---|---|

**General Description:** Limiting Temperature Controls to Max Allowable Temperature of the Boiler

**Subgroup:** SG Installation

**Task Group:** T. Clark (PM)

**Submitted by:** T. Clark

**Explanation of Need:** Additional language is needed to ensure that the temperature controls for hot water heating and supply boilers cannot be set to a temperature above the maximum allowable temperature of the boiler. Similar language exists in ASME Section IV and CSD-1, but is missing from NBIC Part 1.

**January 2026 Meeting Action: Proposal**

A motion was made and seconded to accept the attached proposal. After discussion a vote was taken and the motion unanimously passed.

| Item Number: 25-49 | NBIC Location: Part 1, 9.1 | No Attachment |
|---|---|---|

**General Description:** Definition of Heat Pump

**Subgroup:** SG Installation

**Task Group:** J. Kleiss (PM), B. Ahee

**Submitted by:** J. Kleiss

**Explanation of Need:** Heat pump water heaters and heat pump hydronic heaters are in use in the USA and will become more widely used. This is an initial step to incorporating requirements for these devices. Item 24-05 proposes addition of a supplement with guidance for heat pump water heaters.

**January 2026 Meeting Action: Letter Ballot to All (4) Subgroups**

The proposal will need to be letter balloted to Subgroups Installation, Inspection, Repairs and Alterations, and PRD since it involves adding definitions to the glossary.

| Item Number: 25-65 | NBIC Location: Part 1, 3.7.9.1 | No Attachment |
|---|---|---|

**General Description:** Code of Construction for Expansion Tanks

**Subgroup:** SG Installation

**Task Group:** None assigned.

**Submitted by:** T. Clark

**Explanation of Need:** The NBIC does not and should not determine when a vessel is required to be built to a code of construction. That determination is made by the jurisdiction.

**January 2026 Meeting Action: Close with no action**

A motion was made and seconded to close the item with no action due to the inquirer withdrawing his inquiry. After discussion a vote was taken and the motion unanimously passed.

| Item Number: 25-78 | NBIC Location: Part 1, 2.8.6 | No Attachment |
|---|---|---|

**General Description:** Flow or Temperature Sensing Devices for Forced Circulation Power Boilers

**Subgroup:** SG Installation

**Task Group:** J. Kleiss (PM), T. Clark, M. Downs, M. Toth

**Submitted by:** T. Clark

**Explanation of Need:** ASME CSD-1 allows the use of a flow or sensing device or a combination of a LWCO and a temperature sensing device to detect low-water conditions in boilers with forced circulation. While NBIC Part 1 makes such an allowance for hot water boilers, no such requirement exists for power boilers.

**January 2026 Meeting Action: Progress Report**

A task group was formed to work on this item.

## 14. Future Meetings

July 13-16, 2026 – Salt Lake City, UT
January 11-14, 2027 – Nashville, TN

## 15. Adjournment

Respectfully submitted,

Thomas P. Beirne
Subcommittee Installation Secretary

# Subcommittee Installation Attendance: January 14, 2026

| MEMBERS: | Interest Category | In Person | Remote | Not In Attendance |
|---|---|---|---|---|
| Don Patten | NB Certificate Holders | x | | |
| Stan Konopacki | Users | x | | |
| Adams, Rodger | Authorized Inspection Agencies | x | | |
| Robert Black | Manufacturers | x | | |
| Joe Brockman | Authorized Inspection Agencies | x | | |
| Jim Byrum | Authorized Inspection Agencies | x | | |
| Tom Clark | Jurisdictional Authorities | x | | |
| Todd Creacy | Authorized Inspection Agencies | | | x |
| J. Matt Downs | Manufacturers | x | | |
| Jeff Kleiss | Manufacturers | x | | |
| H. Michael Richards | General Interest | x | | |
| Robert Smith | General Interest | | x | |
| Ron Spiker | Jurisdictional Authorities | | x | |
| Melissa Wadkinson | Manufacturers | x | | |
| Thomas P. Beirne | Secretary | x | | |

| VISITORS: | Company / Interest | In Person | Remote |
|---|---|---|---|
| Ahee, Bryan | Bradford White Corporation | x | |
| Choitz, Jon | HSB | x | |
| Ezernack, John | CNA Insurance Company | x | |
| Schneeberger, Steve | CNA | x | |
| Verderose, Edward | Industrial Steam Boiler Corporation | x | |
| Black, Robert | American Boiler Manufacturers Association (ABMA) | | x |
| CRIHAN, IULIAN | REGIE DU BATIMENT DU QUEBEC | | x |
| Mirjalali, John | Intellihot inc. | x | |
| Roberts, Steven | Cambridge Cove Consultants LLC | | x |
| Shah, M. A. | AIS | | x |
| Stimson, Robert | State of Kansas | | x |
| Burns, Mike | NBBI | | x |
| Mike Devany | State of Connecticuit | x | |

I25-46 Submitted by Tom Clark
8/27/2025

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

| | |
|---|---|
| **Subject:** | Pressure Limit Control Functionality and Construction |
| **NBIC Location:** | 2025 NBIC Part 1, 2.8.4 b) |
| **Statement of Need:** | Power boilers are manufactured with many different maximum allowable working pressures, yet there is not a similar variety of pressure controls to match. The current wording in NBIC does not make it clear if "constructed to prevent a setting" means it must be impossible for a pressure control to be set to a pressure above the boiler's MAWP, or if a non-permanent limitation device (such as a set screw, mechanical stop, electronic limit, locking device, or tamper seal) may be used to ensure the control is not inadvertently set to a pressure above MAWP. |
| **Background Information:** | While inspecting a 3,000 HP rental boiler, the inspector noticed that the high pressure limit control allowed a setting of up to 1000 psi, despite the boiler having an MAWP of 650 psi. The only thing preventing the control from being set to 1000 psi was a single set screw. This would not comply with a literal interpretation of 2.8.4 b). As NFPA 85 provides no guidance and CSD-1 does not apply, further guidance is needed as to what is acceptable under 2.8.4 b). |
| **Proposed Question:** | 2.8.4 b) states that "each control shall be constructed to prevent a pressure setting above the maximum allowable working pressure of the boiler", but the term "constructed to prevent" is not clear. If the upper setpoint limit of a pressure control exceeds the maximum allowable working pressure of the boiler, would the use of a set screw, locking device, electronic limiter, tamper seal, or other non-permanent means of limitation be considered to comply with the requirements of this paragraph? |
| **Proposed Reply:** | Yes. |
| ***Committee's Question:*** | If the upper setpoint limit of a pressure control exceeds the maximum allowable working pressure of the boiler, would the use of a set screw, locking device, electronic limiter, or other non-permanent means of limitation be considered to comply with the requirements of paragraph 2.8.4b)? |
| ***Committee's Reply:*** | Yes. |
| ***Rationale:*** | <Additional clarification for response> |

NBIC Interpretation Item I25-86
Submitted by Marty Toth
1/13/26

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

| | |
|---|---|
| **Subject:** | Installation of Automatic Bottom Blowdown (Blowoff) Valve |
| **NBIC Location:** | 2025 NBIC Part 1, 2.7.5 d) |
| **Statement of Need:** | There is a lack of understanding on the in-service side regarding boiler installations with an automatic bottom blowoff. The users are then leaving the required two manually blowoff valves in the open position. |
| **Background Information:** | Various manufacturers are installing automatic blowdowns on boilers that aren't explicitly allowed by the Code. |
| **Proposed Question:** | Does the NBIC, Part 1 allow for the installation of a slow-opening automatic quarter-turn valve in addition to, or replacement of, bottom blowoff valve(s) not specifically allowed by the code of construction? |
| **Proposed Reply:** | No. |
| ***Committee's Question:*** | Does NBIC, Part 1, 2.7.5 d) allow for the installation of an automatic valve in lieu of blowoff valve(s) not specifically allowed by the code of construction? |
| ***Committee's Reply:*** | No. |
| ***Rationale:*** | d) Two independent slow-opening valves or a slow-opening valve and quick-opening valve may be combined in one body provided the combined fitting is the equivalent of two independent slow-opening valves or a slow-opening valve and a quick-opening valve, and the failure of one to operate cannot affect the operation of the other. |

Rationale:

At the “Member’s Discussion” during the 2025 National Board General Meeting, a question was posed regarding the requirement for temperature controllers to be constructed in a manner to prevent a setting above the maximum allowed temperature of the boiler. During this conversation it was noted that while ASME Section IV and CSD-1 both mention this requirement, no similar wording was found in NBIC Part 1.

ASME Section IV, HG-613:

*(a)* Each individual automatically fired hot water heating or hot water supply boiler shall have a high temperature limit control that will cut off the fuel supply at or below the marked maximum water temperature at the boiler outlet. This control shall be constructed to prevent a temperature setting above the maximum.

CSD-1, CW-410 (c):

*(c)* In addition to the operating temperature control requirements in (b), each individual automatically fired hot water boiler shall have at least one high-temperature limit control. The high-temperature limit control’s sensing element shall be positioned on the boiler to cut off the fuel supply at or below the maximum allowable temperature. The upper set point limit or the maximum fixed stop limit of the high-temperature limit control shall not exceed the maximum allowable temperature. Functioning of this high-temperature limit control shall cause safety shutdown and lockout. The manual reset may be incorporated in the high-temperature limit control. Where a reset device is separate from the high-temperature limit control, a means shall be provided to indicate actuation of the high-temperature limit control. Each high-temperature limit control shall have its own sensing element and operating switch. The sensing element may be remote from the control unit.

NBIC Part 1, 3.8.3.1 (for potable water heaters):

Each individual automatically fired water heater, in addition to the operating control used for normal water heater operation, shall have a separate high limit temperature actuated combustion control that will automatically cut off the fuel supply. The temperature range of the high limit temperature actuated control shall not allow a setting over 210°F (99°C).

Proposed Text:

NBIC Part 1, 3.8.2.3:

3.8.2.3 TEMPERATURE CONTROL

Each automatically fired hot-water heating or hot-water supply boiler shall be protected from over-temperature by at least two temperature-operated controls.

a) Each individual hot-water heating or hot-water supply boiler or each system of commonly connected boilers shall have at least one control that will cut off the fuel supply when the water temperature reaches an operating limit, which shall be less than the maximum allowable temperature.

b) In addition to a) above, each individual automatically fired hot-water heating or hot-water supply boiler shall have at least one safety limit control with manual reset that will cut off the fuel supply at or below the maximum allowable temperature at the boiler outlet. This control shall be constructed to prevent a temperature setting above the maximum allowable temperature of the boiler. If the upper setpoint limit of the control exceeds the maximum allowable temperature of the boiler, a limiting mechanism shall be installed to prevent setting above the maximum allowable temperature.

c) Each operating and safety limit control shall have its own sensing element and operating switch.

d) Alternatively, integrated controls with multiple sensors may be used to meet the requirements of a) and b).