

**Registration Process for Engineered Pressure Enclosures
 (“Leak Boxes”) Effective 2017 May 1**

Policy Paper TSASK-2016-07-02

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1. Scope

This paper details the process for the registration and installation of engineered pressure enclosures (EPE) for use in Saskatchewan. The paper also describes the process for obtaining acceptance for the use of an EPE.

2. Outside of the Scope of this Paper

No EPE shall be installed on any boiler or boiler external piping. This paper does not apply to any other registration process at TSASK.

3. Background

Currently, manufacturers submit a registration application, design drawings and calculations stating the proposed location of the installation. The manufacturer may also include a brief description of the design conditions of the pressure equipment to be enclosed.

Upon receipt of the application, Codes and Standards Compliance (CSC) reviews the design and then determines how long the EPE will be in place by either contacting the TSASK Inspector responsible for the area or the facility owner to establish when the next turnaround maintenance for the location is scheduled.

If the design is acceptable, CSC will issue a registration for the EPE. The registration permits the one time use of the EPE and is only valid until the next scheduled turnaround for the facility when proper repairs shall be done and the EPE removed.

TSASK did not have a means of ensuring that the enclosures are removed nor a method for tracking that the removed EPEs are never reused. Further, fittings that are registered through CSA International are sometimes installed in Saskatchewan as EPEs. However, many of these fittings have not been registered for one time, temporary use only; and, thus, are not compliant with current requirements.

Further, some owners are already using the EPE before the TSASK design registration has been obtained and before the TSASK Inspector has agreed to the use of the EPE. Pre-registered EPEs are an attempt to stop this practice from happening. Owners are required to obtain acceptance by TSASK before use.

4. New Process for Registration and Installation of EPEs – Use of AB-521 for Saskatchewan

In a bid to move toward harmonization among the jurisdictions, the ABSA document AB-521 (Requirements for Engineered Pressure Enclosures) shall be followed for all EPEs to be installed in Saskatchewan subject to the **following amendments**:

4.1. *Pre-registered Fittings (QMS Companies only)*

The option to use pre-registered fittings (Per Section 5.1.1 of AB-521) shall be made available to TSASK Quality Management System (**QMS**) **companies only**. To take advantage of the use of these pre-registered fittings, the QMS company shall include in their registered QMS manual the following (RRIMR - Per Section 5.1.2 of AB-521):

- standardized risk assessment methodology;
- root cause analysis process;
- installation procedure(s);
- maintenance and monitoring procedures; and
- removal confirmation procedures.

TSASK recognizes that a complete root cause analysis cannot be accomplished before the EPE is installed. What TSASK is looking for is confirmation that the facility owner has enough of an understanding around what may have caused the failure so that the installation of the EPE will not make the situation any worse.

When the root cause analysis is completed and the RRIMR is finalized, the owner shall send a copy of the final RRIMR to TSASK for their records. Electronic copies emailed to the attention of the Manager, Codes and Standards Compliance are acceptable.

If, upon completion of the root cause analysis, an owner determines in the final RRIMR that the original assumptions were incorrect and that there may be an impact on the installation of the EPE, the owner shall notify the Manager, Codes and Standards Compliance immediately. In addition, the owner shall present to TSASK mitigating steps that may be taken to reduce or eliminate the impact on the EPE installation.

A QMS company shall notify TSASK whenever a pre-registered fitting is to be installed using the approved EPE process in their QMS manual for TSASK notification. If there is no current process for the use of EPEs in the QMS company's manual, then the manual shall be updated to include the use of EPEs.

The QMS company's Pressure Equipment Inspector (PEI) shall perform the installation inspection of the EPE. The TSASK Inspector does not have to be present for the installation. However, TSASK shall do a final inspection within 60 days of installation. If the installation of the EPE requires that it be insulated, the EPE shall be marked and/or coloured such that the location of the EPE is obvious. The tag for the EPE shall remain visible at all times. The procedure for marking and/or colouring insulated EPEs shall be included in the EPE section of the QMS manual.

4.2. Installation of EPE – Quality Control Program required

Only companies with a quality control program (QCP) registered for use in Saskatchewan shall install EPEs. The QCP company's quality control program shall be followed. QCP companies **shall always notify TSASK** prior to the installation of an EPE – no exception. Concurrence of the TSASK Inspector prior to the installation of the EPE is mandatory.

4.3. Identification of EPE

At the time of installation, the owner or the owner's designate shall affix a tag to the EPE which clearly states the:

- owner's identification number;
- date of installation;
- anticipated removal date of the EPE; and
- EPE is a one-time use only fitting.

An example of the tag shall be included in the owner's RRIMR (Per Section 5.1.2 of AB-521) and in the QCP company manual if the QCP company may be creating the EPE tag on the owner's behalf.

4.4. Use of TSK-1016 Record of EPE Installation

In AB-521, reference is made to a Construction Data Report. TSASK has created *TSK-1016 Record of EPE Installation* in place of ABSA's Construction Data Report. *TSK-1016 Record of EPE Installation* shall be signed and retained by the owner. TSASK shall also retain a copy of the completed form with all the signatures.

QMS companies may apply to TSASK to have their own form/Construction Data Report recognized in place of *TSK-1016 Record of EPE Installation*. This may be done at the time of the QMS program audit. Acceptance of the QMS company's form by TSASK shall be obtained before use.

5. Non-QMS Companies

5.1. Design Registration

All non-QMS companies shall obtain a design registration for the EPE following the normal process for registration with TSASK Codes and Standards Compliance. An application shall be made for the design of the EPE to be reviewed and registered.

The design submission shall include the information required as outlined in AB-521 (Requirements for Engineered Pressure Enclosures) Part 5.0. This information shall be provided on a case by case installation.

5.2. Notification of TSASK Inspector

Once the design is accepted by TSASK, the QCP company selected to install the EPE shall notify the appropriate TSASK Inspector – no exceptions. No work shall commence until the TSASK Inspector has been notified and responded to the QCP company. A TSASK Inspector shall be involved in the installation of the EPE.

No non-QMS owner shall install or allow to be installed an EPE without an inspection of the EPE installation by a TSASK Inspector.

6. Completion of *TSK-1016 Record of EPE Installation* – QMS and Non-QMS

Each company, regardless of QMS or not, shall complete form *TSK-1016 Record of EPE Installation* for review by the TSASK Inspector unless TSASK has given prior approval to use the QMS company form.

Upon his arrival on site, the TSASK Inspector shall review the installation and form *TSK-1016 Record of EPE Installation*. *TSK-1016 Record of EPE Installation* shall be completed by the QCP company of record.

For QMS companies, *TSK-1016 Record of EPE Installation* shall be signed by the QCP company representative, the PEI doing the inspection and the TSASK Inspector.

For non-QMS companies, the QCP company representative, the owner representative and the TSASK Inspector shall sign *TSK-1016 Record of EPE Installation*.

As was stated earlier, *TSK-1016 Record of EPE Installation* shall be retained by the owner. A copy of the form shall be given to the TSASK Inspector once all the signatures are in place and the inspection is completed.

7. CSA Registered Fittings – Shall Not be Used as EPEs

CSA registered fittings per Clause 25(1) of the Saskatchewan Boiler and Pressure Vessel Regulations **shall not be accepted** as EPEs. In addition, the exemption to registration of fittings per Clause 25(2) of the Boiler and Pressure Vessel Regulations **shall not be applicable** to EPEs (Category A, B or C fittings).

8. Removal of EPE

When the EPE is removed, the owner or his designate shall notify the Manager, Codes and Standards Compliance by email (codesandstandards@tsask.ca) with the actual date of removal. Failure of an owner or his designate to notify TSASK of the removal of an EPE may result in future requests to use EPEs being denied.

9. Design Registration Applications

Completed EPE design packages shall be submitted to:

Codes & Standards Compliance

Technical Safety Authority of Saskatchewan
2202 2nd Avenue REGINA SK S4R 1K3

10. Questions Regarding an Application

If possible, applicants should contact their Design Survey Engineer directly with questions. Be sure to include the TSASK reference number or provide enough detail that the Design Survey Engineer will know which application is being referenced.

For all other design inquiries, please contact TSASK Codes & Standards Compliance:

- By email at codesandstandards@tsask.ca;
- By phone at either (306) 798-7111 (Regina) or Toll Free (866) 530-8599. Please ask to speak to either a TSASK Design Reviewer or the Manager, Codes & Standards Compliance; or
- Visit the TSASK website at www.tsask.ca for more information.

11. Effective Date of Requirements

The requirements of Policy Paper *TSASK-2016-07-10 Registration Process for Engineered Pressure Enclosures* shall be effective **2017 May 1**.