### API Standard 682 - Shaft Sealing Systems forCentrifugal and Rotary Pumps

#### Inquiry #682-I-01/06

**Question:** Are the requirements in Clause 6.1.1.1 mandating the use of cartridge design mechanical seals, without hook sleeves, applicable to all API 610/ISO 13709 pumps irrespective of the edition that the pump was designed to?

**Reply:** Yes. As stated in the Introduction, API 682 is applicable to both new and retrofitted pumps, as well as pumps designed to standards other than API 610/ISO 13709 (e.g. ASME B73.1, ASME B73.2, and API 676).

#### Inquiry #682-I-02/07

**Question:** Does the seal system need to be designed to the MAWP of the pump?

**Reply:** Yes, the seal system, excluding the seal itself, is to be designed for the MAWP in accordance with 6.1.1.6 (including the note), 3.55, and 8.1.11.

#### Inquiry #682-I-03/07

**Question 1:** If the specification states that the tube wall thickness and diameter is to be determined by the vendor and the vendor specifies that a diameter and wall thickness other than that which is stated in 8.5.3.1.5 has the best heat transfer and suitability, would this comply with API 8.5.3 requirements?

**Question 2:** If heat exchanger tubes with 3/8 in. diameter and a .049 in. wall thickness have the same cross sectional area as required by 3/4 in. diameter tubes with .095 in. wall thickness, does it comply with 8.5.3?

**Reply 1:** Section 8.5.3.1.5 specifies the default tubing information. Other options may be specified or agreed to by the purchaser.

**Reply 2:** No.

#### Inquiry #682-I-01/05

**Question 1:** Table 8 of shows base point and cyclic range temperature for the category “Mineral oil 150°C to 400°C applications” as 400°C. This means that the static, dynamic & cyclic testing of the seals has to be done at 400°C. This limit was 260°C earlier, both in API 682 first as well as second edition. Hence the first edition qualified bellow seals automatically got qualified as second edition seals. Now, from this table, it appears that bellow seals need to be re-qualified at 400°C. However, this is contradicted by the Figure 32 which is a graphical representation of the tests. This figure shows the base point “1” as 260°C. Hence the Table 8 and Figure 32 contradict each other. Please advise.

**Question 2:** Clause 10.3.1.2.5 states: “The mineral oil is a white mineral oil base formulation capable of stable operations at high temperatures up to 315°C.” In that case which oil is to be used for testing at 400°C?

**Reply 1:** The information in Table 8 for the upper temperature range base point and cyclic ranges is an error. The upper temperature should be 260°C (500°F) which is then consistent with Figure 32. An errata will be issued for this correction.

**Reply 2:** Per Reply 1, it is not intended that any testing be done above 260°C (500°F).

#### Inquiry #682-I-01/07

**Question:** Should the accumulator in a Plan 52 and Plan 53B design be considered a pressure containing component?

**Reply:** Yes.