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Varenes, February 7<sup>th</sup> 2014

3042

PA DEP  
P.O Box 8477  
Harrisburg, PA  
USA

(Sent by email)

Attn.: Environmental Quality Board

Subject: Proposed comments to PA Oil and Gas Regulations

To whom it may concern,

Thank you for inviting Solmax to comment on the proposed PA Oil & Gas Regulations. It's with great pleasure that we share with you are comments.

Solmax has a rich history for containment of critical applications. We have worked with government agencies worldwide in raising the manufacturing and installation standards for critical containments for industries such as waste and mining. With this in mind, Solmax proposes the following recommendations for the proposed PA Oil & Gas Regulations:

- The specification requires the liners to have a coefficient of permeability no greater than  $1 \times 10^{-10}$  and to be above a certain thickness (30 mils for secondary containment and 40 mils for primary containment). The DEP reserves the right to approve an equivalent "as protective as a 30 mil (or 40 mil) liner". It is Solmax's opinion that this information is not precise. Different liners with the same thickness will have different properties. Organisations, such as the GRI (geosynthetic research institute), have researched and developed basic geomembrane specifications to assure a specific level of manufacturing quality for geomembranes. Industries such as waste and mining have adopted these regulations as minimum requirements and still use them today. It is therefore Solmax's recommendation that the PA DEP Oil & Gas Regulations specifies the GRI-GM-13 or GRI-GM-17 as minimum requirement for the mechanical and physical properties. For example, article 78.56(a)(9)(ii) could read as follows:

*"Liner must have physical, mechanical and endurance properties equal or better as a 30 mils GRI-GM-13 or GRI-GM-17 liner. Approval may be granted..."*

- Relying on the manufacturer's recommendations for installation guidelines does not guarantee an impermeable liner. As impermeable as a material is, the impermeability of a liner is only as good as its weakest link and often, this link is the installation. As such, the International Association of Geosynthetic Installers (IAGI) has developed standard practices for the installation of geomembranes that will maximize the potential of impermeability. They also set standard practices for the quality control and quality assurance of the installation. It is therefore Solmax's recommendation that the DEP should use these standards and not refer to the manufacturer's best practices as they might not all lead to an impermeable liner. For example, article 78.56(a)(9)(iv) could read as follows:

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*“Adjoining sections of liners shall be sealed together to prevent leakage in accordance with the IAGI installation guidelines. The integrity...”*

- In the same frame of mind, the IAGI installation guidelines also specify how repairs should be performed and therefore, any references to repairs should be:

*“... as per IAGI Installation guidelines...”*

Solmax's above recommendations are based on past experiences. The specifications mentioned above have been proven and are still utilized by many organizations such as the US EPA for waste containment. Following these recommended specifications would ensure a quality in the material manufacturing as well as in the installation and repairs of the liners.

We hope that this information will prove beneficial, do not hesitate to contact us again at your convenience for any further detail. Thanking you for your confidence in our products and services, please accept our kindest regards.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Cornellier".

Mathieu Cornellier, Eng.  
Technical Director  
Solmax International Inc.