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**CORE LINEPIPE QUALIFICATION IN SERVICES
CONTAINING HYDROGEN SULPHIDE (H₂S)**

Dear Mr. Sakr:

The Alberta Energy Regulator (AER) has reviewed the engineering assessment and testing reports recently submitted by CORE Linepipe (CORE), which are intended to validate the use of the CORE system in services containing hydrogen sulphide (H₂S).

The test regime exposed samples of CORE joints to varying stress levels in test solutions with varying H₂S concentrations and pH values, followed by NDE inspection for potential sulphide stress cracking. This testing was performed by third-party laboratories in accordance with the procedures of *NACE Standard Test Method TM0177, Laboratory Testing of Metals for Resistance to Sulphide Stress Cracking and Stress Corrosion Cracking in H₂S Environments*, and *NACE Standard Test Method TM0316 Four-Point Bend Testing of Materials for Oil and Gas Applications*.

The testing has confirmed that CORE Linepipe may be used in services containing H₂S according to the following table:

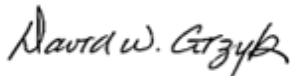
CORE Linepipe Product	Maximum Operating Pressure kPa*	Service Conditions
OD 168.3 mm, wall 4.8 mm OD 219.1mm, wall 5.6 mm	<= 4,960 kPa*	Any P _{H₂S} or effective P _{H₂S} with any water pH
	4,960 kPa to <= 9,930 kPa*	P _{H₂S} or effective P _{H₂S} up to 100 kPa(a) with water pH higher than 5.5
		P _{H₂S} or effective P _{H₂S} up to 10 kPa(a) with water pH between 4.5 and 5.5
* Must also ensure that if in gas service having greater than 10 moles/kmole H ₂ S, maximum stress level is below 60% of nominal SMYS for buried pipe, and below 50% of nominal SMYS for above-ground pipe.		

The AER advises that applications for CORE may be submitted subject to the following conditions:

- Maximum hydrogen sulphide content complies with the above table,
- All applications are reviewed by CORE Linepipe engineering department for suitability,
- Base line pipe must be manufactured in compliance with the sour service material requirements of CSA Z245.1,
- All underground metallic components shall be protected from corrosion in accordance with Clause 9 of CSA Z662,
- CORE should retrieve and examine or test any CORE pipe samples that are removed from service and establish data regarding service performance, as this data may in future be requested by the AER as per Section 10(3) of the *Pipeline Rules*,
- Applications are to be submitted using the steel pipe Type, Grade, and Dimensions; Joint code of M; Internal Protection code of E; and using the non-routine “does not meet CSA” check box or equivalent.

The AER trusts this is satisfactory. If you have any questions, please contact me at (403) 297-8432.

Yours truly,



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