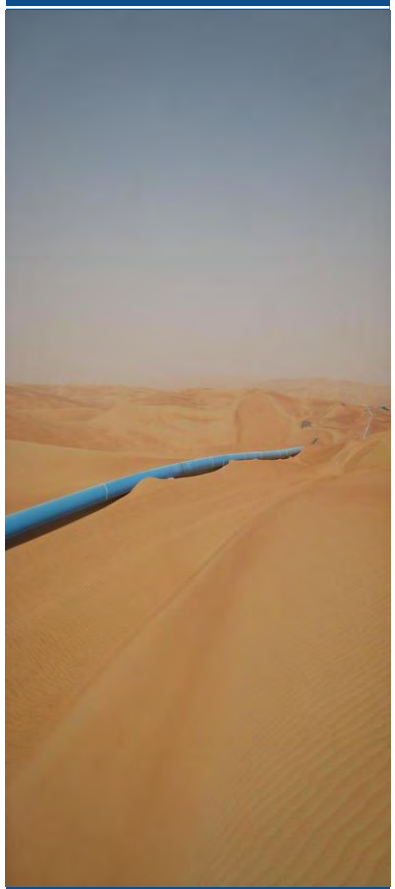
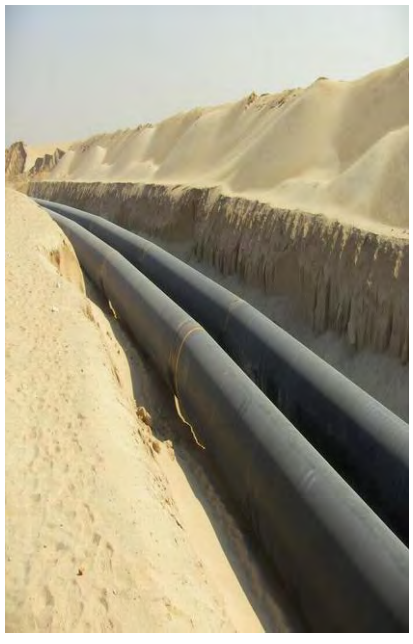
ARABIAN

PIPECOATING

COMPANY

Value Without Compromise





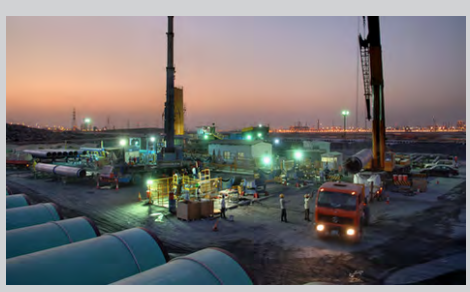
COMPLETE COATING SERVICE PROVIDER

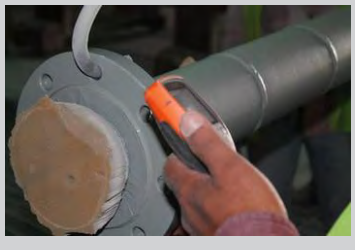
The Arabian Pipecoating Company Ltd. (APCO) was established in 1983 by the A. H. Algosaibi Bros. Co., and the Abdulaziz & Sa'ad AI-Moajil Company. APCO provides end to end pipe coating solutions, is a leading provider of quality pipe coating products and offers the largest pipe coating capacity at a single location, globally. With an established regional footprint in the Middle East and an expanding global presence, APCO is focused on catering to world scale pipeline projects. Independent engineering, design and plant mobilization capabilities enable APCO can deploy solutions directly to project sites and support project execution with industry leading technical expertise.

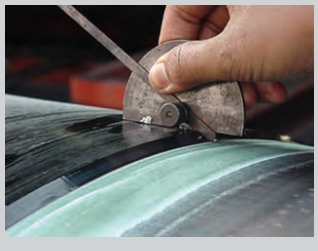
APCO can support dynamic pipe coating projects by offering a full line of external, internal, concrete and custom coating solutions along with double jointing and field girth weld coating services. A sizable and expanding fleet of cranes and trucks is capable of handling the largest pipeline projects. Supplemented by approximately 1.5 million square meters of pipe storage facilities strategically located within 2km of the Jubail deep water port and within 20 km of SMLS, ERW, LSAW and SSAW pipe manufacturers, APCO is capable of serving the requirements of both regional and global markets.

With an unrivalled line of Internal FBE coating technologies capable of meeting the needs of the most aggressive service conditions along with proprietary process technology and industry leading plant capacity, APCO can offer unique solutions for emerging onshore, offshore and down-hole applications. The largest and most dynamics Custom Coating capabilities are offered across three facilities serving upstream and downstream developments along with potable water and mining industries. Double Jointing facilities can support coating of 80 ft. lengths and Concrete Weight Coating facilities offer the highest throughputs globally. Industry leading capacity can also be provided for commodity anti-corrosion and flow efficiency products.

APCO has an established reputation as a quality and service leader across a global client base including oil and gas majors, engineering firms, trading houses and mining companies. With ISO 9001:2008, ISO 14001:2004 and ISO 18001:2007 certifications, APCO management systems are configured to meet the demands of the most rigorous global clients.







QUALITY ASSURANCE

Arabian Pipecoating Company Limited (APCO) is committed to complete customer satisfaction through being a reliable organization, and providing quality products and services.

We as a company recognize that a high level of commitment to quality is essential to success, as well as being in the best interest of all customers, employees and stakeholders.

Arabian Pipecoating Company quality objectives shall be achieved at all Company locations by adhering to the following principles:

- Identification and documentation of customer requirements.
- Conformance to customer requirements and compliance with applicable standards.
- Implementation of quality management best practices and industry leading measurement systems.
- Responsibility for quality and customer satisfaction rests with all employees.
- Continual improvement of quality performance.
- Commitment to a reliable organization by providing necessary resources and training.

All employees from top management to production personnel, at each location are responsible for implementing and maintaining an effective quality management system. Regular audits shall be completed to determine conformance and drive continual improvement of the quality management system.

All employees equally share responsibility for creating a reliable organization through flawless execution and the successful implementation of the quality management system

Aboudy Tannous
General Manager

Latest Revision September 2012

ANTI-CORROSION PRODUCT LINE

A full range of Anti-Corrosion products can be used across many service conditions for both onshore and offshore applications. These products offer a range of performance characteristics and can be applied to the full range of pipe diameters. All products are applied in leading manufacturing facilities employing sophisticated process controls and technology. Continual focus on process improvement enables APCO plants to supply coatings with best in class performance for this product range.

3LPP

Three Layer Polypropylene (3LPP) is a multilayer coating which exhibits similar performance properties to 3LPE systems with the added benefit of elevated operating temperature performance. This system is suitable for both onshore and offshore applications and can be applied under concrete weight coating systems.

3LPE

Three Layer Polyethylene (3LPE) is a multilayer coating comprised of an FBE anti-corrosion layer, an adhesive tie layer and a thick polyethylene topcoat to provide for mechanical protection and moisture barrier properties. This coating combines the anti-corrosion properties of FBE with a moisture barrier to prevent corrosion reactants from reaching the steel surface. 3LPE systems are applied across a full range of onshore and offshore conditions and provide an extended life expectancy for pipelines.

FBE

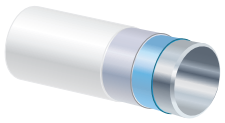
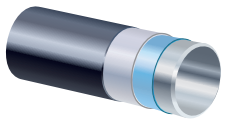
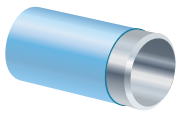
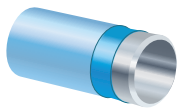
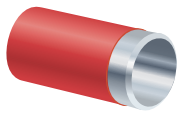
This established product line can be provided for in a range of pipeline operating temperatures and environmental soil conditions. With temperature capabilities reaching 145°C and high build materials available for elevated moisture conditions, this product line can meet the requirements of the most aggressive onshore and offshore applications. FBE is suitable for both dry and moist soil under stable and cyclical operating conditions and, facilitates CP transmission. When applied in combination with APCO WeightCoat concrete coating, FBE performance is suitable for offshore applications.

Dual Layer FBE

Dual Layer FBE provides all of the anti-corrosion protection of standalone FBE systems with enhanced mechanical properties. Suitable for cyclical operating conditions, moist environments and high mechanical impact and erosion conditions, Dual Layer FBE systems will perform in rocky terrain, high soil stress conditions and HDD applications.

Liquid Coatings

Liquid Coating products are available for a multitude of specialty service conditions. Suitable for large diameter station piping up to 120" in diameter, high UV conditions, high erosion service, stainless steel pipelines and offshore platforms, specific Liquid Coatings must be matched to project service conditions.

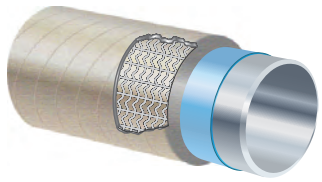
	3LPP	3LPE	FBE	Dual Layer FBE	Liquid Coating	
PRODUCT ILLUSTRATION						
PRODUCT DESCRIPTION	3LPP is a multilayer coating system consisting of a layer of fusion bonded epoxy, a co-polymer adhesive and an outer layer of polypropylene which offers the toughest, most durable pipe coating solution available.	3LPE is a multilayer coating system consisting of a layer of fusion bonded epoxy, a co-polymer adhesive and an outer layer of polyethylene which offers a tough, durable pipe coating solution.	FBE offers operating temperature capabilities reaching 145°C and high build systems are available for high moisture soil conditions. This product line can meet the requirements of the most aggressive onshore and offshore applications. FBE is suitable for both stable and cyclical operating conditions and facilitates CP transmission.	Dual Layer FBE provides all of the anti-corrosion protection of standalone FBE systems with enhanced mechanical properties. Suitable for cyclical operating conditions, moist environments and high mechanical impact and erosion conditions,Dual Layer FBE systems will perform in rocky terrain, high soil stress conditions and HDD applications.	Liquid Coatings products are available for a multitude of specialty service conditions. Suitable for large diameter station piping up to 120' in diameter,high UV conditions,high erosion service,stainless steel pipelines and offshore platforms,specific Liquid Coatings must be matched to project service conditions.	
PRODUCT FEATURES	• Long term corrosion resistance • High temperature performance • Resistance to moisture penetration and mechanical damage • Resistance to cathodic disbondment	• Long term corrosion resistance • Resistance to moisture penetration and mechanical damage • Excellent resistance to cathodic disbondment	• Long term corrosion resistance • High continuous operating temperature performance • Chemical resistance, soil stress resistance, and resistance to cathodic disbondment	• High operating temperature capabilities • Excellent abrasion and impact resistance • Improved handling characteristics • Fully bendable to 1.5°/pipe O.D.	• Offer high degree of UV resistance. • Suitable for stainless steel application. • Suitable for protection of concrete surfaces. • Formulated to prevent chemical stress corrosion cracking.	
MINIMUM PIPE DIAMETER	51 mm (2”)	51 mm (2”)	51 mm (2”)	51 mm (2”)	51 mm (2”)	457 mm (18”)
MAXIMUM PIPE DIAMETER	2032 mm (80”)	2032 mm (80”)	2032 mm (80”)	2032 mm (80”)	406 mm (16”)	2438 mm (96”)
MINIMUM PIPE LENGTH	10.5 m (34’)	10.5 m (34’)	10.5 m (34’)	10.5 m (34’)	7 m (23’)	12 m (39’)
MAXIMUM PIPE LENGTH	26 m (85’)	26 m (85’)	26 m (85’)	26 m (85’)	12 m (39’)	24 m (79’)
MINIMUM RECOMMENDED OPERATING TEMPERATURE	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	
MAXIMUM RECOMMENDED OPERATING TEMPERATURE	110°C (230°F)	85°C (185°F)	129°C (264°F)	85°C (185°F)	129°C (264°F)	
REFERENCE LITERATURE	Product Data Sheets and Project Histories are available for all anti-corrosion coating products.					

WEIGHTCOAT NEGATIVE BOUYANCY COATING

WeightCoat is a best in class concrete weight coating providing negative buoyancy, mechanical protection and pipeline stability in offshore and wet service conditions. Applied by a passive side wrap process, the product can be applied over polyolefin and FBE anticorrosion systems. WeighCoat can also be supplied on Double Jointed lengths and on Internal FBE coated pipe. APCO WeightCoat application facilities provide for high compaction yielding consistent and uniform coating thickness across a full range of pipe diameters.

WeightCoat can be applied at a range of thicknesses, densities and compressive strengths offering suitability for a multitude of service conditions. Coating thickness can range from 25mm (1") to 150mm (6") and typical density for the product ranges from 1800-3450 kg/m3 (112-215 lbs./ft.) while yielding very high compressive strengths. These properties provide excellent negative buoyance, mechanical strength and pipeline stability across service conditions.

WeightCoat can be applied in combination with various internal and external coatings and can be supplied on Double Jointed lengths under various design conditions to ensure the long term integrity of a pipe line. The product can be further modified with crack inducers, buoyancy bag grooves, bendability grooves and buckle arrestors to support project specific requirements. APCO can deploy WeightCoat application facilities directly to project locations.

	WeightCoat
PRODUCT ILLUSTRATION	
PRODUCT DESCRIPTION	WeightCoat is a best in class concrete weight coating providing negative buoyancy, mechanical protection and pipeline stability in offshore and wet service conditions. Applied by a passive side wrap process, the product can be applied over polyolefin and FBE anticorrosion systems. WeighCoat can also be supplied on Double Jointed lengths and on Internal FBE coated pipe.
PRODUCT FEATURES	• Passive side-wrap concrete technology suitable for application over thin film FBE and most anti-corrosion coatings. • Compatible with Internal FBE and Double Jointing
MINIMUM PIPE DIAMETER	203 mm (8”)
MAXIMUM PIPE DIAMETER	1219 mm (48”)
MINIMUM CONCRETE THICKNESS	25 mm (1”)
MAXIMUM CONCRETE THICKNESS	150 mm (6”)
MINIMUM PIPE LENGTH	10.5 m (34’)
MAXIMUM PIPE LENGTH	14 m (46’)
COMPRESSIVE STRENGTH (28 DAYS)	Proctor Cylinder: 30-40 MPa (4350-5800 psi) Cube: 40-50 MPa (5800-7250 psi)
DENSITY	1800-3284 kg/m^3 (112-205 lbs/ft^3)
REFERENCE LITERATURE	Product Data Sheets and Project Histories are available for all protective and weight coating products.

INTERNAL COATING PRODUCT LINE

CORROSION PROTECTION COATINGS

APCO offers an internal coating product line suitable for corrosion protection and flow enhancement applications. Internal FBE coatings are specially designed for salt water injection, drilling, sour crude and sour gas service. These coatings have been used to protect thousands of kilometers of injection lines with operating pressures in excess of 3000 psi. Drill pipe coatings are rated to endure service temperatures of 200°C and pressures in line with the yield strength of the pipe. Internal corrosion protection coatings have yielded positive test results when subjected to high pressure and temperature test conditions in very sour mediums with high H2S and CO2 concentrations. These coatings also have a track record of successful long term service in both wet and disassociated service. Internal corrosion protection coatings are qualified to and applied by API and SAMSS requirements.

For unique project requirements, qualification testing, coating selection and coating application parameters can be modified to provide for a system capable of meeting pipeline design parameters.

HydroGuard FBE

HydroGuard FBE is a plant applied Internal FBE coating with a successful track record of long term performance in sour and saline water injection service. HydroGuard FBE is specially designed for internal corrosion protection of steel pipelines operating with high pressure and temperature service. The product is employed as an Enhanced Oil Recovery (EOR) coating to deliver injection fluids to the formation while mitigating the reduction in formation porosity due to steel corrosion products in the service media. HydroGuard FBE is also suitable for sour crude, high water cut and high chloride service. This product delivers excellent chemical resistance properties at 95°C and 3000 psi® while maintaining excellent flexibility for cold bending and field handling.

DrillGuard FBE

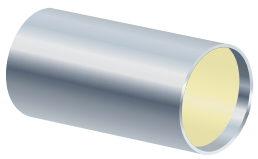
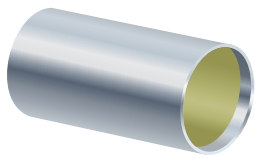
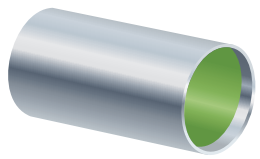
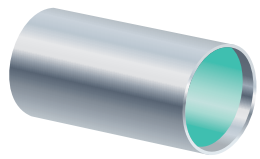
DrillGuard FBE series of coatings are specially formulated to withstand the most aggressive service conditions. The product line offers both flexible and ultra-corrosion resistant coatings to service moderate and extreme drill depths. Operating temperature resistance can reach 200°C and pressure resistance can exceed 8500 psi. DrillGuard FBE can also withstand extreme sour conditions, formation water and completion fluids.

SourGuard FBE

SourGuard FBE is specially designed for servicing disassociated sour gas. Intended for use in both gathering lines and transport lines, this product can backstop inhibitor usage and withstand scrapper applications. SourGuard FBE has been successfully tested and employed in extreme sour service and is chemically stable in high temperature/pressure conditions.

WaterGuard FBE

WaterGuard FBE is specially formulated for potable water service and is suitable for line pipe application. This coating is WRAS certified and conforms to the requirements of AWWA Standard C213 and C550; it is also tested and certified to ANSI/NSF Standard 61, Drinking Water System Components.

	Hydroguard FBE	DrillGuard FBE	SourGuard FBE	WaterGuard FBE
PRODUCT ILLUSTRATION				
PRODUCT DESCRIPTION	HydroGuard FBE is a plant applied Internal FBE coating with a successful track record of long term performance in sour and saline water injection service. This product is also suitable for sour crude, high water cut and high chloride service. This coating delivers excellent chemical resistance properties at 95°C and 3000psi whilemaintaining high flexibility for cold bending and field handling	DrillGuard FBE series of coatings are specially formulated to withstand the most aggressive service conditions. The product line offers both flexible and ultra-corrosion resistant coatings to service moderate and extreme drill depths.	SourGuard FBE is specially designed for servicing disassociated sour gas. Intended for use in gathering lines it has the potential to lower inhibitor usage and pigging frequency.	WaterGuard FBE is specially formulated for potable water service. It is has widely used to service potable water system components.
PRODUCT FEATURES	• High pressure service. • Water injection and hydrocarbon service for EOR. • Suitable for custom coating application. • Extremely flexible.	• Extreme depth, temperature and pressure service. • Corrosion protection. • Flexible material available for improved durability.	• Resistant to disassociated sour gas. • Corrosion protection. • Reduced pitting. • Improved laminar flow. • Suitable for custom coating application	• WRAS, AWWA, NSF certified for drinking water service. • Very flexible for high DFT application. • Suitable for custom coating application
MINIMUM PIPE DIAMETER	51 mm (2”)	51 mm (2”)	51 mm (2”)	51 mm (2”)
MAXIMUM PIPE DIAMETER	1829 mm (72”)	1829 mm (72”)	1829 mm (72”)	1829 mm (72”)
MINIMUM PIPE LENGTH	10.5 m (34’)	10.5 m (34’)	10.5 m (34’)	10.5 m (34’)
MAXIMUM PIPE LENGTH	15 m (49’)	15 m (49’)	15 m (49’)	15 m (49’)
MINIMUM RECOMMENDED OPERATING TEMPERATURE	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-60°C (-60°F)
MAXIMUM RECOMMENDED OPERATING TEMPERATURE	110°C (392°F)	200°C (392°F)	110°C (392°F)	110°C (392°F)
REFERENCE LITERATURE	Product Data Sheets and Project Histories are available for all internal coating products.			

INTERNAL LIQUID PRODUCT LINE

The Internal Liquid Product Line offers both flow efficiency coatings and anti-corrosion products for specialty applications. Flow efficiency coatings smooth the internal surface of the pipeline to provide for improved laminar flow. Improved flow efficiency may allow for a reduction in pipeline diameter and reduced fuel consumption. These coatings may also prevent black powder formation in the pipeline system.

These products are available in both solvent and non-solvent based systems with a range of roughness profiles. Flow efficiency coatings can be applied in combination with most external anti-corrosion coatings, are compatible with WeightCoat and can be supplied on Double Jointed pipe.

Internal flow coatings are qualified to and applied in accordance with API RP 5L2 requirements. For specific projects outside the API RP 5L2 scope, modification to the testing, application, and cure can be conducted to ensure that product quality in maintain and client requirements are met.

Specialty internal liquid epoxy coatings are available for large diameter potable water pipelines for both low and high temperature service. These products are specially formulated to meet NSF, WRAS and AWWA standards while providing excellent long term performance. Potable water coatings can be applied in combination with most external anti-corrosion coatings and can be supplied on Double Jointed pipe.

FloAssure FEC

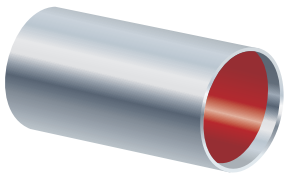
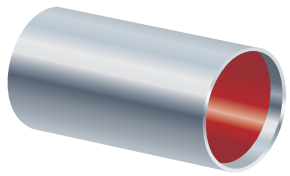
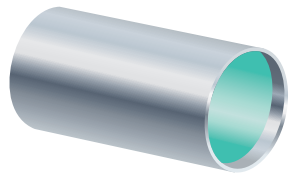
FloAssure FEC is a two-part liquid epoxy paint system applied in a single coat. A cut-back (uncoated portion of pipe) is usually left to allow for a high quality joint welding process.

FloAssure SF

FloAssure SF is a solvent free two-part liquid epoxy paint system applied in a single coat. The solvent free system is evironmentally-friendly with similar performance to FloAssure FEC.

WaterGuard LE

WaterGuard LE has been specially formulated for long term protection of steel and concrete immersed in potable water. This coating is WRAS and NSF certified for drinking water service. Excellent for field and custom coating, with high build single coat application through hot spray or brush / roller application.

	FloAssure FEC	FloAssure SF	WaterGuard LE
PRODUCT ILLUSTRATION			
PRODUCT DESCRIPTION	SureFlo® FEC is a thin film internal epoxy coating applied in natural gas pipelines to smooth the internal pipe surface for improved flow.	SureFlo® SF is a solvent-free thin film internal epoxy coating used to improve the flow of non-corrosive gas in a pipeline.	WaterGuard LE is specially formulated for potable water service. It is designed to protect both steel and concrete components in potable water service.
PRODUCT FEATURES	• Reduces friction costs and compression costs • Clean internal surface • Suitable for field and custom coating application	• Reduces friction costs and compression costs • Clean internal surface • Suitable for field and custom coating application	• WRAS, NSF certified for drinking water service. • Suitable for steel and concrete application. • Suitable for field and custom coating application
MINIMUM PIPE DIAMETER	102 mm (4”)	102 mm (4”)	102 mm (4”)
MAXIMUM PIPE DIAMETER	762 mm (30”)	762 mm (30”)	762 mm (30”)
MINIMUM PIPE LENGTH	10.5 m (34’)	10.5 m (34’)	10.5 m (34’)
MAXIMUM PIPE LENGTH	15 m (49’)	15 m (49’)	15 m (49’)
MINIMUM RECOMMENDED OPERATING TEMPERATURE	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)
MAXIMUM RECOMMENDED OPERATING TEMPERATURE	129°C (264°F)	129°C (264°F)	80°C (176°F)
REFERENCE LITERATURE	Product Data Sheets and Project Histories are available for all internal coating products.		

LOGISTICS

APCO has many years of experience managing the transportation and handling of pipes to and from its coating facilities. Some of the benefits of this logistics experience is highlighted below:

- APCO has extensive logistics and pipe handling capabilities and experience. Facilities are strategically located with access to major roads and shipping ports. The deep water port of Jubail is located 2 km from APCO coating facilities.
- APCO support major projects with 1.5 million square meters of pipe storage facilities. A sizeable fleet of trucks and cranes suitable for handling and transporting pipe most diameters and OCTG products is also available.
- APCO can handle 2" to 120" pipe, 24m lengths and OCTG products with premium and non-premium connections. Bundling and pipe sorting services are also available. Specialty large diameter spools, fitting and elbows can also be handled and transported throughout APCO facilities.
- ISO 9001 certification, proven handling practices and experienced personnel will ensure the mechanical integrity of our client's pipe, OCTG products and spools.

HEALTH, SAFETY & ENVIRONMENT

The Arabian Pipe Coating Company Ltd. (APCO) recognizes the potential hazards associated with its activities and, through its HSE policy, pledges to achieving and protecting the well-being of its employees, their families and the environment. APCO believes HSE performance is an integral part of its success as it promotes the dedication of its employees and the retention of their capabilities. All APCO employees must play active roles in achieving and upholding the principles of this policy.

APCO HSE objectives shall be achieved at all company locations by adhering to applicable regulatory laws and to the following principles:

- To uphold safe working conditions, provide suitable and maintained plant equipment and tools and, to store hazardous materials and substances in a safe and legally compliant manner.
- To prevent incident and injury by providing adequate control of health and safety risks arising from work activities.
- To effectively manage HSE risk across all development, continuous improvement and project execution initiatives, on a situational basis, recognizing that all such initiatives undertaken by the company present a new set of HSE risks which,must be identified and mitigated.
- To achieve a safe working environment by changing people's behaviors through frequent engagement in class room and job specific training programs geared towards elevating employee awareness of HSE risks and the measures in place to mitigate them.
- To engage and consult with employees regarding day-to-day health and safety matters and provide advice and supervision related to the handling of these matters.
- To prevent or mitigate the environmental impact of the company at each of its operating sites.
- To promote a culture of commitment and adherence to APCO HSE principles through audit, measurement and continual improvement of APCO HSE performance.
- Employees are empowered to work in safe condition and can stop work if there are safety risk to themselves or others

The above principles are an integral part of the foundation which supports the governance of our company and the programs which will foster its development and success.

HSE (Health, Safety and Environment) will be considered first and will be evaluated on an equal basis with quality and cost in making business decisions. Management will provide continuous support and commitment to the implementation of HSE practices.

Aboudy Tannous
General Manager

Latest Revision September 2013

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