

RESOURCE GUIDE

Updated: August 29, 2011

This Turbine Inlet Cooling (TIC) Buyer's Guide has been developed and is maintained by, and for, the membership of TICA.

Each member company in good standing in TICA is entitled to two types of inclusion in the Guide, at no charge:

1. Inclusion in the Product and Service Matrix, with single or multiple entries, and
2. A detailed entry in the Corporate Profile section of the Guide, including company name and address, contact name and title, telephone, facsimile, e-mail, and website, plus a narrative description (up to 100 words) of the company's TIC experience, capabilities, products, and/or services.

Electronic versions of the Guide may incorporate links to member company e-mail and website addresses, probably for free for the first link, and probably with a fee for additional links.

Product and Service Categories:

TIC Facilities

Develop / Finance / Own
Operate and Maintain

Gas / Combustion Turbines

TIC System Designers and/or Installers

Consulting / Design Engineering
Design / Build TIC Systems
Contractors / Installers

Suppliers of TIC Equipment and/or Subsystems

Chillers, individual equipment
Chillers, packaged systems
Evaporative Cooling and Fogging
Indirect Evaporative Cooling
Wet Compression
Heat Rejection Equipment
Inlet Air Coils
Thermal Energy Storage

Other Products and Services

TURBINE INLET COOLING ASSOCIATION turbineinletcooling.org

TICA Member Companies	TIC Facilities		Gas / Combustion Turbines	TIC System Design / Installation			Suppliers of TIC Equipment and/or Subsystems							Other Products & Services
	Develop / Finance / Own	Operate and Maintain		Consulting / Design / Engineering	Design / Build TIC Systems	Contractor / Installer	Chillers / Individual Equipment	Chillers / Packaged Systems	Evaporative Cooling & Fogging	Indirect Evaporative Cooling	Wet Compression	Heat Rejection Equipment	Inlet Air Coils	
Avelon Consulting, Inc.				X										
Aoevedo & Associates, Inc.				X										
Baltimore Aircoil Company											X		X	
Carbonomics, LLC				X										
Caldwell Energy Company	X	X		X	X	X	X	X		X	X	X	X	
Chicago Bridge & Iron Co.					X	X							X	
The Cool Solutions Co.	X			X									X	X
Danfos H.P. Systems														X
DN Tanks														X
Everest Sciences				X	X			X	X					X
IDE Technologies													X	
International Coil Limited								X				X		
FES Systems, Inc.							X	X			X		X	

TICA Member Companies	TIC Facilities		Gas / Combustion Turbines	TIC System Design / Installation			Suppliers of TIC Equipment and/or Subsystems							Other Products & Services
	Develop / Finance / Own	Operate and Maintain		Consulting / Design / Engineering	Design / Build TIC Systems	Contractor / Installer	Chillers / Individual Equipment	Chillers / Packaged Systems	Evaporative Cooling & Fogging	Indirect Evaporative Cooling	Wet Compression	Heat Rejection Equipment	Inlet Air Coils	
Freudenberg Filtration Technologies				X	X	X	X	X						X
Munters Corp.				X	X	X			X	X				X
Parker Hannifin Corporation														X
Pasteris Energy, Inc.	X			X	X									
Seoul Air Conditioning, Inc.							X				X	X		X
SPX Cooling Technologies, Inc.											X			X
Stellar Energy Systems	X	X		X	X	X		X			X	X	X	X
Turbine Air Systems	X	X		X	X	X		X				X	X	X

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Company Name: **Acevedo & Associates, Inc.** (*TICA Founding Member*)
Address: 26606 Dancing Bear
City, State, Code, Country: San Antonio, Texas, 78258 U.S.A.
Contact Name, Title: Rudy Acevedo, Jr., P.E., principal
Telephone: 1-830-980-3547
Facsimile: 1-830-438-2055
E-mail: rudya.acevedp@acevedoandassociates.com
Website: www.acevedoandassociates.com

Corporate TIC Capabilities, Products, or Services: Acevedo & Associates, Inc. has been providing consulting engineering services for the combustion turbine inlet cooling (power augmentation) and the industrial refrigeration markets since 1999.

Company Name: **Avalon Consulting, Inc.** (*TICA Founding Member*)
Address: 427 Prairie Knoll Drive
City, State, Code, Country: Naperville, Illinois 60565 U.S.A.
Contact Name, Title: Dharam (Don) Punwani, President
Telephone: 1-630-983-0883
Facsimile: 1-630-357-1004
E-mail: dpunwani@avalonconsulting.com
Website: www.avalonconsulting.com

Corporate TIC Capabilities, Products, or Services: Avalon Consulting, Inc. provides consulting services for turbine inlet cooling (TIC) systems. The scope of our services includes technical and economic analyses of alternative technologies for TIC, and optimization of TIC systems for specific power plants and markets. Our analyses cover all TIC technologies: evaporative cooling (wetted media and fogging), electric and absorption chillers with or without thermal energy storage (TES), and hybrid systems. We provide objective analyses for power plant owners, energy service companies, design and engineering contractors, and cooling equipment manufacturers and sales representatives.

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Company Name: **Baltimore Aircoil Company.** (*TICA Founding Member*)
Address: P.O Box 7322
City, State, Code, Country: Baltimore, MD 21227 U.S.A.

Contact Name, Title: Justin Scremin, Product Marketing Engineer
Telephone: 1-410-799-6200
Facsimile: 1-410-799-6405
E-mail: JScremin@BaltimoreAircoil.com
Website: www.avalonconsulting.com

Corporate TIC Capabilities, Products, or Services: Baltimore Aircoil Company (BAC) is a worldwide manufacturer and marketer of heat transfer and ice thermal storage products. BAC products serve customers in power generation, air conditioning, refrigeration, and industrial processes.

Company Name: **Caldwell Energy Company** (*TICA Founding Member*)
Address: 4020 Tower Road
City, State, Code, Country: Louisville, Kentucky 40219 USA

Contact Name, Title: John E. Kraft, P.E., President
Telephone: 1-502-964-6450
Facsimile: 1-502-966-8732
E-mail: jkraft@caldwellenergy.com
Website: www.caldwellenergy.com

Corporate TIC Capabilities, Products, or Services: Caldwell Energy Company was founded in 1995 with the mission of providing combustion turbine users with inlet cooling systems. Caldwell is the only provider of all inlet cooling technologies including evaporative cooling with fog, on-line chilling, chilling with Thermal Energy Storage (ice or water) and patented Wet Compression Technology, giving Caldwell the unbiased ability to fairly evaluate which technology best serves a Customer's need. Caldwell is an experienced turnkey provider of all inlet cooling systems with proven installations on all combustion turbines: aero-derivative, mature industrial and advanced turbines. Caldwell provides aftermarket support and services for all technologies.

TURBINE INLET COOLING ASSOCIATION turbineinletcooling.org

Company Name: **Chicago Bridge & Iron Company** (*TICA Founding Member*)
Address: One CB&I Plaza, 2103 Research Forest Drive
City, State, Code, Country: The Woodlands, TX 77380, U.S.A.

Contact Name, Title: Orville A. Earhart, Business Development Manager
Telephone: 1-832-513-1122
Facsimile: 1-832-513-1505
E-mail: oearhart@cbiepc.com
Website: www.cbiepc.com

Corporate TIC Capabilities, Products, or Services: CB&I, a global design-build construction company with over \$1 billion in worldwide annual revenues, has long served the power industry with many quality turnkey products and services. CB&I provides complete design-build, guaranteed-performance Turbine Inlet Cooling systems utilizing Thermal Energy Storage (TES), as well as construction services for CTIC systems designed by others. CB&I has an unequalled experience record which includes dozens of turnkey utility refrigeration systems and over 100 large TES systems, including ice storage, Strata-Therm® chilled water storage, and patented **SoCool**SM low temperature stratified fluid storage.

Company Name: **The Cool Solutions Company** (*TICA Founding Member*)
Address: 5007 Lincoln Avenue, Suite 201
City, State, Code, Country: Lisle, Illinois 60532 USA.

Contact Name, Title: John S. Andrepont, President
Telephone: 1-630-353-9690
Facsimile: 1-630-353-9691
E-mail: CoolSolutionsCo@aol.com
Website: www.CoolSolutionsCo.com

Corporate TIC Capabilities, Products, or Services: The Cool Solutions staff provides consulting services for both the business and technical aspects of CTIC developments of various types, from analysis and planning through installation and operation. Past projects include: CT plant capacities from 1 MW to 500 MW; simple cycle and combined cycle plants; direct refrigerant evaporation and water-cooled air coils; mechanical and absorption refrigeration; non-storage, water storage and ice storage systems. Our staff is particularly experienced with identifying and capturing the benefits of Thermal Energy Storage (TES), including applications of patented **SoCool**SM low temp TES.

TURBINE INLET COOLING ASSOCIATION turbineinletcooling.org

Company Name: **Danfoss H-P Systems**
Address: 7560 Southwest Jack Janes Drive
City, State, Code, Country: Stuart, FL 34997 USA

Contact Name, Title: Rodney Kohler, Product Marketing Engineer
Telephone: 1-813-215-7762
Facsimile:
E-mail: R.Kohler@danfoss.com
Website: www.danfoss.com

Corporate TIC Capabilities, Products, or Services: FES Systems Inc. provides chilling equipment for the mechanical pre-cooling of turbine inlet air. Air chilling can be provided using chilled water or anti-freeze fluids, or direct refrigerant in coils. Components manufactured at FES Systems Inc. include rotary screw compressors, shell-and-tube heat exchangers, plate-and-frame heat exchangers, vessels and controls. Drives can be electric motor, gas engine, or steam turbine depending on customer requirements, and refrigerants range from halocarbons to natural refrigerants such as ammonia and hydrocarbons. Equipment can be furnished as individual components for field assembly and installation. For those applications requiring complete factory packaged chiller systems, FES Systems Inc. offers screw compressors and heat exchangers through a partnership with Turbine Air Systems.

Company Name: **DN Tanks – Natgun & DYK Divisions**
Address: 410 E. Trinity Blvd
City, State, Code, Country: Grand Prairie, TX 75050 U.S.A.

Contact Name, Title: Guy Frankenfield - Manager, TES & Biofuels Division
Telephone: 1-972-823-3300
Facsimile: 1-972-823-3333
E-mail: gfrankenfield@natgun.com
Website: www.dntanks.com

Corporate TIC Capabilities, Products, or Services: Natgun and DYK, divisions of DN Tanks, build the highest quality Thermal Energy Storage (TES) and anaerobic digesters for all energy markets. Each tank is designed by DN Tanks engineers to maximize the energy effectiveness and minimize the operational costs for the owner. Because they are constructed of pre-stressed concrete, they can be built above ground, partially buried, or fully buried. DN tanks are built watertight and maintenance-free, providing decades of continuous service for owners.

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Company Name: **Everest Sciences**
Address: 7737 East 42nd Place, Suite H
City, State, Code, Country: Tulsa, OK 74145 USA

Contact Name, Title: Marcus Bastianen, Director of Sales and Marketing
Telephone: 1-918-770-4606
Facsimile: 1-866-922-2507
E-mail: mvastianen@everestsciences.com
Website: www.EverestSciences.com

Corporate TIC Capabilities, Products, or Services: FES Systems Inc. provides chilling equipment for the mechanical pre-cooling of turbine inlet air. Air chilling can be provided using chilled water or anti-freeze fluids, or direct refrigerant in coils. Components manufactured at FES Systems Inc. include rotary screw compressors, shell-and-tube heat exchangers, plate-and-frame heat exchangers, vessels and controls. Drives can be electric motor, gas engine, or steam turbine depending on customer requirements, and refrigerants range from halocarbons to natural refrigerants such as ammonia and hydrocarbons. Equipment can be furnished as individual components for field assembly and installation. For those applications requiring complete factory packaged chiller systems, FES Systems Inc. offers screw compressors and heat exchangers through a partnership with Turbine Air Systems.

Company Name: **FES Systems Inc. (TICA Founding Member)**
Address: 3475 Board Road
City, State, Code, Country: York, Pennsylvania 17402 USA

Contact Name, Title: Dennis Halsey, Vice President - Sales & Marketing
Telephone: 1-717-767-6411
Facsimile: 1-717-764-3627
E-mail: dhalsey@fessystems.com
Website: www.fessystems.com

Corporate TIC Capabilities, Products, or Services: FES Systems Inc. provides chilling equipment for the mechanical pre-cooling of turbine inlet air. Air chilling can be provided using chilled water or anti-freeze fluids, or direct refrigerant in coils. Components manufactured at FES Systems Inc. include rotary screw compressors, shell-and-tube heat exchangers, plate-and-frame heat exchangers, vessels and controls. Drives can be electric motor, gas engine, or steam turbine depending on customer requirements, and refrigerants range from halocarbons to natural refrigerants such as ammonia and hydrocarbons. Equipment can be furnished as individual components for field assembly and installation. For those applications requiring complete factory packaged chiller systems, FES Systems Inc. offers screw compressors and heat exchangers through a partnership with Turbine Air Systems.

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Company Name: **Freudenberg Filtration Technologies India Pvt Ltd.**
Address: Indo German Technology Park, Survey No. 297/99, Village – Urawade, Tahsil Mulshi
City, State, Code, Country: Pune, Maharashtra, India

Contact Name, Title: Ashish Date, General Manager (Projects)
Telephone: +91 9881712005
Facsimile: +91 20 66751641
E-mail: ashish.date@freudenberg-filter.com
Website: www.freudenberg-filter.com

Corporate TIC Capabilities, Products, or Services: We provide Viledon® eee.Sy, an innovative turnkey system for inlet air mass enhancement by inlet air cooling for gas turbines, engines and compressors in hot & humid climates. This is an internationally patented system to improve efficiency and output of turbo-machinery by using waste heat such as steam, hot water, exhaust gas, etc The Viledon® eee.Sy technology offers integration of filtration, mist elimination and chilling of inlet air at very low air-side pressure drop at the inlet of the gas turbine or compressors. The system can be easily integrated in gas turbine or process plants.

Company Name: **International Coil Limited**
Address: 7th Floor, DLF Cyber City, Building 9 B
City, State, Code, Country: Gurgaon, Haryana, India

Contact Name, Title: D.S. Kalsi, CTO
Telephone: +91-11-25701967
Facsimile: +91-11-25893126
E-mail: kalsi@icl-tech.com
Website: www.icl-tech.com

Corporate TIC Capabilities, Products, or Services: International Coil Limited provides turnkey solutions for Turbine Inlet Cooling, ACC, HVAC, Heat transfer and Refrigeration systems. ICL can supply, install, commission, operate and maintain these systems as per customer requirement. ICL has installed over 150,000 tons of chilling systems. Most of these systems use exhaust-fired (heat recovery) absorption chillers. Depending upon the requirement ICL provides systems with either electric, steam-driven, direct-fired, or exhaust-fired / heat recovery chillers.

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Company Name: **IDE Technologies**
Address: Hamatechet St., P.O.B. 5016, Hasharon Industrial Park
City, State, Code, Country: Kadima 60920, Israel

Contact Name, Title: Mr. Shlomi Rott, Marketing Director
Telephone: +972-9-892-9849
Facsimile: +972-9-892-9759
E-mail: shlomir@ide-tech.com
Website: www.ide-tech.com

Corporate TIC Capabilities, Products, or Services: IDE Technologies Ltd., jointly owned by ICL and Delek Group is a pioneer and world leader in water technologies. We specialize in development, engineering, production and operation of advance desalination systems, and innovative industrial solutions, such as green solutions for snow making, Thermal Energy Storage (TES) and large scale space cooling/heating. Our unique energy efficient Vacuum Ice Maker (VIM) technology enables shift load for GT Inlet Cooling Systems equipped with mechanical chillers. The cooling media (Ice Slurry) is stored in a simple and low- cost storage tanks. IDE Technologies Ltd. operates from Israel and has offices in the United States, India, and China..

Company Name: **Munters Corporation** (*TICA Founding Member*)
Address: 108 6th Street, S.E.
City, State, Code, Country: Ft. Myers, Florida 33907 U.S.A.

Contact Name, Title: Donald Delman, Regional Sales Manager
Telephone: 1-972-775-5844
Facsimile: 1-432-204-1198
E-mail: ddelman@munters.com
Website: www.munters.us/precoolers

Corporate TIC Capabilities, Products, or Services: For almost 40 years, Munters has been an authority on evaporative cooling technology. Our evaporative cooling products have been installed in hundreds of combustion turbine inlets around the world. Munters can show you how to boost your turbine output by up to 20% when you need it most, during those hot summer afternoons. One of a few companies to supply both fog and media based systems, Munters is uniquely qualified to educate you on the benefits of both types of technology and help you decide which system is best for your specific site. Start increasing profits and contact us today.

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Company Name: **Parker Hannifin Corporation** (*TICA Founding Member*)
Address: 9200 Tyler Blvd.
City, State, Code, Country: Mentor, Ohio 44060 USA U.S.A

Contact Name, Title: Kim Aiken, Senior Support Engineer
Telephone: 1-630-553-8440
Facsimile: 1-630-553-8440
E-mail: macrospray@parker.com
Website: www.parker.com, www.macrospray.com

Corporate TIC Capabilities, Products, or Services: Parker Hannifin is the world's leading supplier of motion and control equipment. The Gas Turbine Fuel System Division's patented Macrospray technology offers superior spray performance in the widest array of packaging options including the remarkable multi-point Spider nozzles. Parker offers spray nozzles and accessories including manifolds, valves, connectors, filters, and hose as well as systems and sub-systems for turbine cooling and wet compression.

Company Name: **Pasteris Energy, Inc.** (*TICA Founding Member*)
Mailing Address: 430 Trend Road
City, State, Code, Country: Yardley, Pennsylvania 19067 U.S.A.

Contact Name, Title: Raymond M. Pasteris, President
Telephone: 1-215-736-8170
Facsimile: 1-215-736-8171
E-mail: rpasteris@pasterisenergy.com
Website: www.pasterisenergy.com

Corporate TIC Capabilities, Products, or Services: Pasteris Energy, Inc. located midway between Philadelphia and New York City operates as a unique energy firm providing energy development, engineering, economic and commercial services in district heating and cooling, combined heat and power ("CHP"), turbine inlet air cooling, energy conservation audits, energy asset valuation and energy performance contracting.

Company Name: **Seoul Air Conditioning Inc.**
Address: East Building 8F, IT Venture Tower, Karak-Dong 78, Songpa-Gu
City, State, Code, Country: Seoul, 138-803, Korea

Contact Name, Title: Gabriel Kim, Director
Telephone: 82-2-2142-0070
Facsimile: 82-2-401-5018
E-mail: gabriel@infinergy.net
Website: www.seoulahu.co.kr

Corporate TIC Capabilities, Products, or Services: Seoul Air Conditioning Inc., (SACI) is the leading HVACR and Energy Solution provider in Korea for chiller packages and systems, cooling towers, evaporative coolers, and conventional and specialized air handlers. These products and system solutions cover centrifugal chillers from 300 to 2700USRT; factory assembled and field erected cooling towers; cooling and heating coils, and air handlers. Combined with special application commercial and industrial heat pumps heat recovery products and systems, and TIC, SACI offers pioneering resources and expertise in optimum energy conservation solutions.

Company Name: **SPX Cooling Technologies, Inc.**
Address: 7401 W. 129th St.
City, State, Code, Country: Overland Park, KS 66213 U.S.A.

Contact Name, Title: Paul Lindahl, Dir. Marketing & Business Development
Telephone: 1-913-664-7588
Facsimile: 1-913-693-9310
E-mail: paul.lindahl@ct.spx.com
Website: www.spxcooling.com

Corporate TIC Capabilities, Products, or Services: Many of the existing turbine air inlet cooling installations use SPX Cooling Technologies products. Marley, Balcke, Hamon Dry Cooling and Recold are brands offered by this technology leading global manufacturer of field erected and factory assembled cooling towers, evaporative coil products and air-cooled condensers. SPX CT equipment has been used in a large number of air-conditioning, refrigeration, industrial, power and other heat rejection applications throughout the world. SPX CT offers its customers lifetime value in the products and services provided through its global network.

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Company Name: **Stellar Energy Systems** (*TICA Founding Member*)
Address: 2900 Hartley Road
City, State, Code, Country: Jacksonville, Florida 32257 U.S.A.

Contact Name, Title: Curtis Lovelace, Vice President, Stellar Energy Systems
Telephone: 1-904-260-2900, ext. 3283
Facsimile: 1-904-899-9283
E-mail: clovelace@stellar.net
Website: www.stellarenergysystems.com

Corporate TIC Capabilities, Products, or Services: The Stellar Group provides turnkey turbine inlet chilling systems for aero-derivative and industrial turbine power plants. Stellar's in house engineering, project management, fabrication, field and service personnel have industry leading experience in the design, fabrication, installation and service of water/glycol and direct refrigerant systems including thermal energy storage. Our single source delivery capabilities allow us to offer a wrap around guarantee – ensuring expected performance and on time operation. Stellar is the largest industrial refrigeration design/builder in the U.S. with the resources, capabilities and experience to guarantee TIC project success.

Company Name: **Turbine Air Systems, Ltd** (*TICA Founding Member*)
Address: 3050 Post Oak Blvd, Suite 1600
City, State, Code, Country: Houston, Texas 77056 U.S.A.

Contact Name, Title: Gary Hilberg, Vice President Sales
Telephone: 1-713-877-8700
Facsimile: 1-713-877-8701
E-mail: sales@tas.com
Website: www.tas.com

Corporate TIC Capabilities, Products, or Services: Turbine Air Systems is the leading supplier of packaged inlet cooling solutions for new and existing gas turbine facilities. These solutions include on-line and Thermal Energy Storage systems. TAS has provided inlet cooling for over 140 gas turbines, worldwide. These systems comprise over 250,000 tons of water & air-cooled refrigeration systems. TAS's highly efficient packaged solutions provide the lowest operating costs and highest net present value of any inlet cooling solution. TAS is the exclusive packager of highly efficient Trane chillers. In addition TAS is the exclusive packager of FES Systems helical screw compressor, utilized for air-cooled inlet cooling applications. TAS offers a full product range of air-cooled and water-cooled chilling packages ranging from 500 to over 8000 tons. We also offer service and installation supervision for all of our packaged Inlet Cooling systems.
