

EMPOWERING the Power Generating Industries



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About ITW

ITW (NYSE:ITW) is a Fortune 200 global multi-industrial manufacturing leader. The company's seven industry-leading segments leverage the unique ITW Business Model to drive solid growth with best-in-class margins and returns in markets where highly innovative, customer-focused solutions are required. ITW has nearly 50,000 dedicated colleagues in operations around the world who thrive in the company's unique decentralized and entrepreneurial culture. To learn more about the company and the ITW Business Model, visit www.itw.com.

To offer the best service to each market segment, ITW PP & F Korea Limited operates the following divisions that are branded uniquely for the most prominent recognition by users and customers:



OMEGA Ultimate Lubricants

Specializing in lubrication solutions - greases, oils and additives



MAGNA Welding Alloys

Specializing in gas and arc welding consumables for maintenance



CORIUM Industrial Chemicals

Specializing in industrial & commercial chemicals and adhesives



ZETALUBE Lubricants

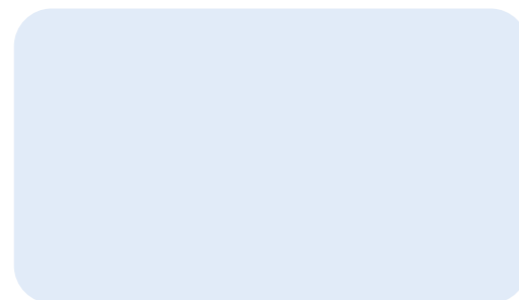
A new lubricity dimension evolved from experience

We supply superior products that make maintenance:

- Faster
- Safer
- More reliable

Our products are engineered to:

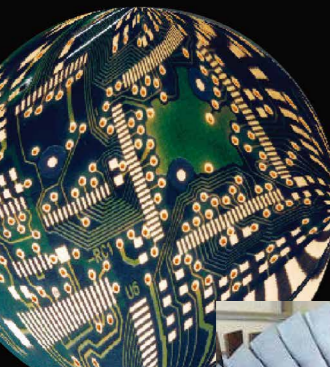
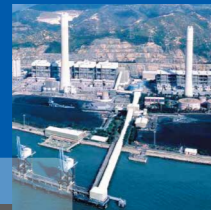
- Lower costs
- Reduce downtime
- Cut wastage



We reserve the right to modify or change products for purposes of improving performance characteristics. © 2016 ITW PP & F Korea Limited

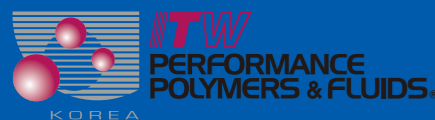
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The information contained in this publication supersedes all relevant information previously released and is to the best of our knowledge and accurate at the time of issue on June, 2016.



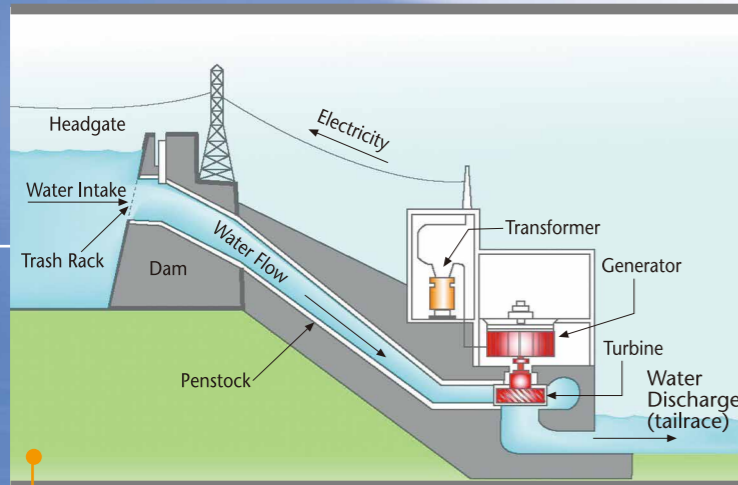
At ITW PP & F Korea Limited we are fully committed to a proactive approach to safety, health, environment and product improvement. Our commitment is well reflected in:

- Our continuous Research and Developments
- Our on-going in-house Training and our in-house Training Facilities
- Our comprehensive range of Quality Products
- Our many long-term Repeat Customers



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Whether you are an engineer, a maintenance professional or a manager of an electric power generating plant, you are among the most critical human assets backing up modern civilizations. Towns, cities and their firms and industries rely on uninterrupted power supply to operate. Your service to your power generating plants affects the lives of thousands, if not millions. You understand that the quality of your service largely depends on a comprehensive maintenance program that needs to put its top priority on "Zero Unplanned Downtime". Yet there are a few blind spots in power generation maintenance that have long been posing potential threats to you and your plants, and one of them is certainly – lubrication.



Hydro-Electric Power Generation

While yours may be fossil fuel fired power, hydro power, geothermal power, or nuclear power, when it comes to lubrication and maintenance, you face similar challenges like heavy loads, high temperatures and water contamination in critical components like chains, compressors, couplings, engines, steam cylinders and turbines, etc.

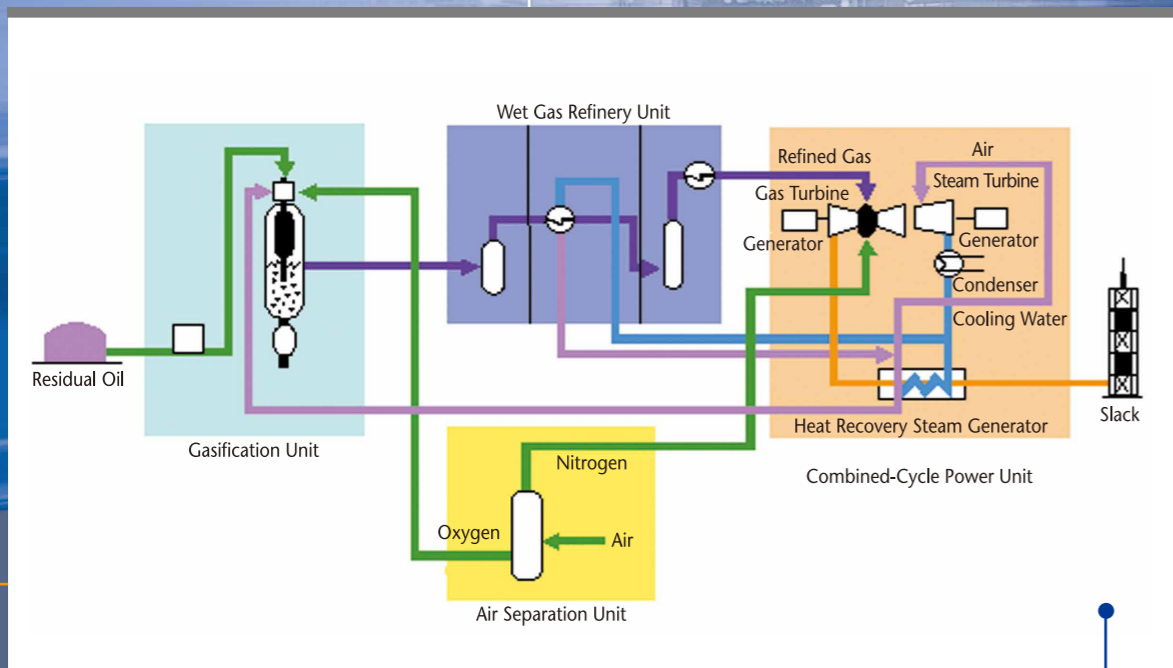
OMEGA, a preferred name in lubrication since 1965, offers complete and specialized lubrication solutions to your power plant. As a winning division of ITW PP & F Korea Limited, a business unit of ITW, Inc., USA - the world's leading industrial services innovator, OMEGA has successfully leveraged its tribology expertise and developed the industry-best lubricants to satisfy and exceed the most stringent requirements in the power generating industry.

Teaming up a global distributor and lubrication consultancy network, OMEGA has been joining hands with professionals like you in the power industry to arrive at solutions for the lubrication related needs at your plants. We help you identify areas for improvement in your plant and work to elevate the productivity and lifespan of your equipment. You will be assisted in selecting the most optimum lubricant for a particular application. We know every kilowatt-hour counts. Availability, performance, cost-saving and safety are 4 pillars of maintenance at the top of your mind and we are confident to help you deliver all the benefits to your plant plus your ultimate electricity consumers.



Your Partner for MRO Solutions

In lubrication, we understand your requirements better than any one else. Talk to your OMEGA expert today!



Integrated Gasification Combined Cycle



Power Plant Maintenance

Power plant maintenance can be divided into two general categories: Routine maintenance and Preventive maintenance.

Routine Maintenance includes the hourly, daily, and weekly maintenance requirements recommended in the manufacturer's literature. Some routine maintenance and checks include the following:

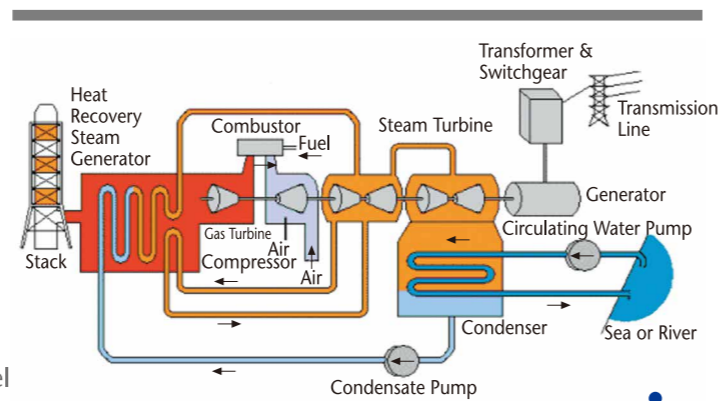
1. Top up lubrication oil levels to the maximum levels
2. Re-grease and identify any contingency needs
3. Free movement of ventilation louvers
4. Drain water and sediment from strainers and filters
5. Maintain level of coolant
6. Check radiator and coolant hoses for leaks
7. Check battery electrolyte level
8. Check all switches for proper operation
9. Drain water from fuel tank
10. Fill fuel tank as required with appropriate diesel fuel
11. Check fuel tank for leaks
12. Log all operator maintenance in the operation log book when it is completed

Preventive Maintenance requires the monthly, quarterly, semi-annual, and annual maintenance checks recommended in the manufacturer's literature. The maintenance supervisor is responsible for establishing a maintenance schedule to ensure the preventive maintenance is performed. A maintenance log book should be established for each generator plant and all maintenance checks recorded. The operation log book should be reviewed regularly to ensure that all preventive maintenance recommended by engine operating hours is scheduled; for example, the schedule of engine lube oil and filter replacement is normally based on hours of operation.

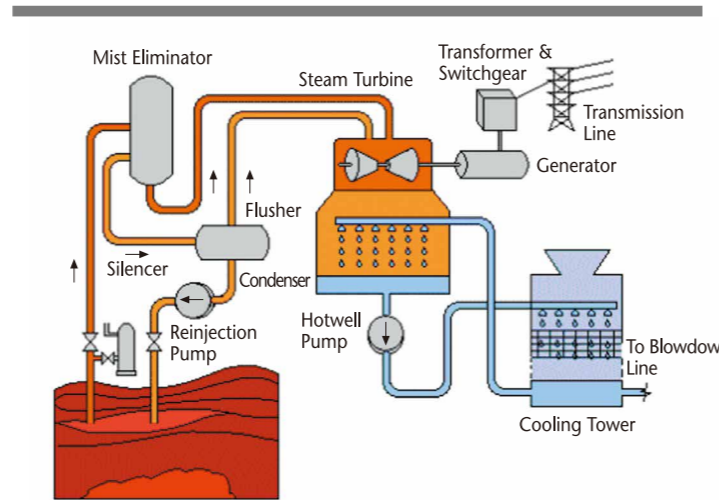


A power generation plant is a facility designed to produce electric energy from another form of energy, such as:

- Heat (thermal) energy generated from:
 - fossil fuels :
 - coal
 - petroleum
 - natural gas
 - geothermal energy
 - nuclear reaction
- Potential energy from flowing water in a hydroelectric facility
- Wind energy (windmills)
- Solar energy using solar (photovoltaic) cells



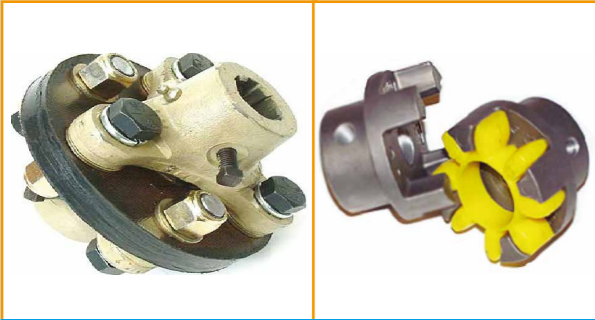




Combined-Cycle Power Generation



Geothermal Power Generation








CRITICAL COMPONENTS OF POWER GENERATION EQUIPMENT	LUBRICATION CHALLENGES	OMEGA SOLUTIONS	OMEGA ADVANTAGES
	High temperatures & evaporation of ordinary lubricants	OMEGA 646 Superior Chain Lubricant	Ideal for lubricating conveyor chains at temperatures up to 200°C. Superior "Megalite" additive prevents metal welding and shearing. High stability provides lubrication for chains where other ordinary oils fling off, drip off or melt off.
		OMEGA 647 "Carbon-Free" Hi-Temp Chain Lubricant	100% synthetic formulation that produces no carbon residues at elevated operating temperatures. Ultra low smoke emission and high tackiness for "stay put" reliability. Special "Megalite" friction modifiers provide lubrication even should vaporization of base fluid occur.
		OMEGA 648 "Smokeless" Hi-Temp Chain Lubricant	Ideal for use in high-cleanliness and high-temperature applications, e.g. hot conveyor chains in drying ovens and similar severe applications. Advanced blend of extremely stable low-evaporation synthetic fluids. Non-carbonizing even when used at elevated temperatures for extended periods.
	Contamination, carbon deposits & oxidation	OMEGA 613 Superior Air Compressor Oil	All purpose oil suitable for an all-loss systems, or where contamination and leakage are unavoidable. Controls oxidation at elevated temperatures. Seals packing and pistons to prevent air leakage, stops the formation of carbon deposits and acts as a heat transfer medium.
		OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	Supreme performance compressor oil formulated from synthesized, wax-free hydrocarbon base fluids combined with an advanced engineered super-stabilized additive package.
		OMEGA 670 Straight Mineral Gear Oil	Heavy-duty circulating oil designed for continuous reuse in circulation lubrication systems for gears and bearings. Fortified against foam and oxidation permitting high heat and improved wear performance.
	Water and moisture contamination, high loading and friction	OMEGA 613 Superior Air Compressor Oil	Designed for applications including steam and hydro turbine sets and other systems where long lubricant service life is required.
		OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	Provides up to ten times operating life of ordinary compressor oils used in rotary vane and rotary screw compressors. Suitable for use down to -40°C. Eliminates oil foaming and varnish formation.
		OMEGA 670 Straight Mineral Gear Oil	High resistance to foaming. Withstands sustained gear action without aerating. Completely resistant to water and moisture.
		OMEGA 690 Super EP Gear Oil	Lubricates transmissions, differentials and gearboxes to run efficiently for long periods. High water resistance, reduces acid and frictional wear. For multi-purpose, hypoid and extreme pressure applications as well as worm gear and limited slip differential applications.
		OMEGA 699 Super Automatic Transmission Fluid	Multipurpose high performance automatic transmission fluid designed to meet the service fill requirements for most vehicles and compressor applications.



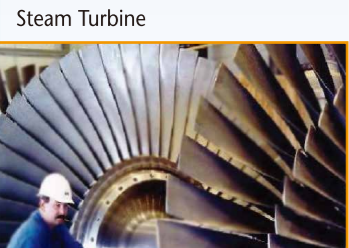



CRITICAL COMPONENTS OF POWER GENERATION EQUIPMENT	LUBRICATION CHALLENGES	OMEGA SOLUTIONS	OMEGA ADVANTAGES	
Reciprocating Compressor 	Oil thickening due to oxidation. Oil loss. Carbon and varnish deposits on the discharge valves	OMEGA 613 Superior Air Compressor Oil	Advanced performance ashless air compressor lubricant designed to meet the most stringent requirements of the major compressor manufacturers.	
		OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	Fully synthetic supreme performance lubricant, specially designed for use in refrigeration compressors and heat pumps.	
		OMEGA 670 Straight Mineral Gear Oil	Superior lubricating oil formulated to provide excellent anti-wear and friction-reducing properties as well as protection against rust and corrosion.	
Rotary Screw Compressor 	Oil foaming, oil thickening due to oxidation. Blockage of the oil separator and filters.	OMEGA 613 Superior Air Compressor Oil OMEGA 670 Straight Mineral Gear Oil	Extremely heavy-duty circulating oils formulated for continuous reuse in circulation lubrication systems for gears and bearings.	
		OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	Specially designed for lubricating severe duty reciprocating air compressors, rotary screw and vane air compressors.	
		OMEGA 699 Super Automatic Transmission Fluid	Premium quality multipurpose automatic transmission oil. Delivers exceptional protection against heat and oxidation.	
Coupling 	High loads, oil separation in greases	OMEGA 690 Super EP Gear Oil	Extra high performance coupling oil delivering superior extreme pressure characteristics and load-carrying properties. Lubricates all types of enclosed gear drives with circulation or splash lubrication systems.	
Electric Motor 	Requiring heavy-duty and long lasting lubricants	OMEGA 22 Superior PTFE synthetic grease engineered for a wide variety of applications at extremes of temperature. Quality formulated with a synthetic base fluid and a special grade polytetrafluoroethylene (PTFE) constituent to ensure enhanced lubricity in punishing conditions.	Super multipurpose lubrication oil designed for almost all forms of machinery lubrication and equipment where EP oils are not recommended.	
		OMEGA 57 Super Bearing Grease		Superior performance grease designed for use in high speed coupling applications. Super cohesive featuring high fiber strength paraffinic base oils to provide unprecedented built-in toughness.
		OMEGA 612 Universal Lubrication & Hydraulic Oil		High-purity lubricants designed to service electric motors and a wide range of multi-use equipment requirements.
		OMEGA 580 Superior Food Machinery Oil	High-purity lubricants designed to service electric motors and a wide range of multi-use equipment requirements.	
		OMEGA 22	High performance lithium-complex greases, incorporating PTFE for enhanced lubricity. Synthetic base fluid.	
		OMEGA 58 Superior Food Machinery Grease	Withstands a great variety of acids, provides excellent water washout resistance. Made from superior quality base materials compounded with a special filler and highly refined paraffinic oils.	

CRITICAL COMPONENTS OF POWER GENERATION EQUIPMENT	LUBRICATION CHALLENGES	OMEGA SOLUTIONS	OMEGA ADVANTAGES
Electric Motor 	Requiring heavy-duty and long lasting lubricants	OMEGA 77 EP Bearing & Chassis Grease	For heavy-duty chassis points in both friction and anti-friction bearings. Withstands extreme shock loadings. Forms its own seal against water and outside temperatures and contaminants. High resistance to pounding out. Excellent cohesive and EP properties.
		OMEGA 78 Food Grade Anti-Corrosion Grease	The most advanced lubrication solution to adverse operating conditions in power plants. Outperforms other premium greases such as lithium complex, aluminum complex and polyurea. Ensures low bleed mechanical stability and gives maximum lubrication life for promising cost-efficiencies.
		OMEGA 85 "Shear Sensation Plus" All-Purpose Grease	Polyurea grease specially formulated for electric motor bearings. Unmatched shear strength and in-built temperature stability. Stays exactly without squeeze out, thinning or deforming. Matches every seal type.
Diesel Engine 	Severe operating conditions – necessitates superior lubricant that gives extra long lifespan	OMEGA 643 Premium Diesel Engine Oil	Superior performance diesel engine oil that extends engine life in the most severe applications. For severe and turbocharged operating conditions in gasoline and diesel engines. The fine paraffinic base provides greater cohesion, adhesion with high heat and oxidation resistance.
		OMEGA 757 Long-Drain All-Fleet Engine Oil	Specialty diesel engine oils formulated from advanced technology based oils and a balanced additive system. Controls wear effectively, it provides ultra long life change intervals. Meets most engine manufacturers' specification.
Gas Engine 	High speeds, vaporization, deposits and excessive contamination	OMEGA 631 Superior Quality Engine Oil	High performance high stability natural gas engine oil intended for the lubrication of medium and high-speed, high-output, low-emissions, fuel-efficient four-cycle engines operating on fuel that contains corrosive materials such as hydrogen sulphide or halogens. Suitable for lubricating all classes of gas engines operating at low, medium and high speeds where low ash or ashless oils are needed. Does not easily vaporize or form harmful deposits and residue.
Open Gear 	Harsh conditions includes rust, corrosion and extreme temperatures. Only the most heavy-duty grease would qualify and perform satisfactorily	OMEGA 73 Water Proof Open Gear Lubricant	Non-solvent containing grease for the lubrication of open gears and bearings. For heavy-duty service. Provides super wear resistance, absorbs shock loads, protects against rust and corrosion. Easy to apply without heating. Stays in place longer in hot or cold temperatures.
		OMEGA 64 Pin, Bushing & Track Roller Grease	Superior ultra-tacky heavy-duty formulation for the lubrication of open gears over a wide range of environmental conditions and machine requirements. Effectively penetrates and replenishes the core lubricant in chains, cables and wire rope. Remarkable tenacity prevents "fling off". Protects against saltwater corrosion, mud, water, dust and dirt. Easy to apply, no heating required.
Parallel Gear 	High loads, wide range of temperature	OMEGA 690 Super EP Gear Oil	Supreme performance heavy-duty gear oils designed for all kinds of enclosed gearing as well as plain and rolling elements bearings.
		OMEGA 612 Universal Lubrication & Hydraulic Oil OMEGA 670 Straight Mineral Gear Oil	Heavy-duty circulating oils for continuous reuse in circulation lubrication systems for gears and bearings. Meeting the critical requirements of high speed No-Twist Rod Mills, manufactured by Morgan Construction Company and Daniell.
		OMEGA 690 Super EP Gear Oil	Delivers outstanding extreme pressure characteristics and loading carrying properties, for use in all types of enclosed gear drives with circulation or splash lubrication systems. Premium quality automotive lubricant formulated from select base oil and an advanced additive system specifically for limited-slip differentials.



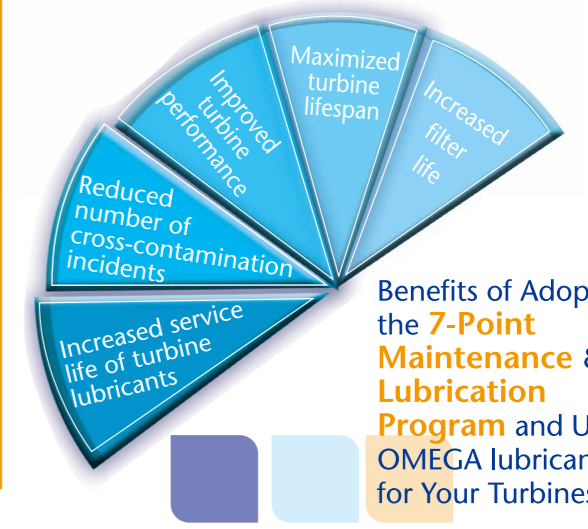
CRITICAL COMPONENTS OF POWER GENERATION EQUIPMENT	LUBRICATION CHALLENGES	OMEGA SOLUTIONS	OMEGA ADVANTAGES
Parallel Gear	High loads, wide range of temperature	OMEGA 696 "Dura-Power" Drive Train & Hydraulic Fluid OMEGA 22	High performance transmission and drive-train lubricants engineered to meet the rigorous specifications required by Caterpillar TO-4. Supreme grease designed for a wide variety of applications at extremes of temperature.
Worm Gear 	Heavy loads, slow speed, high energy consumption, foam and oxidation	OMEGA 680 High-Performance Worm Gear Oil	High performance high viscosity oil designed for use in enclosed worm gears operating at moderate to high speeds and temperatures, and where heavy loads and slow speeds prevail. Improves operating efficiency, saves energy, lowers operating temperatures and provides superior operating life for worm gear sets.
		OMEGA 690 Super EP Gear Oil	Specially designed for gear and bearing that provides outstanding equipment protection and extended oil lifetime.
		OMEGA 670 Straight Mineral Gear Oil	Heavily fortified against foam and oxidation. Enduring high heat and not compromising wear performance.
General Purpose Applications - Grease   	Unpredictable and harsh conditions	OMEGA 22	High performance lithium complex grease with PTFE for a wide variety of applications and severe operating conditions.
		OMEGA 33 Extreme Heat Resistant Grease	Supreme performance antiwear grease designed for high temperature applications. Remains stable up to 315°C. Unparalleled heat tolerating capacity.
		OMEGA 57 Super Bearing Grease	Exceptional resistance to water contamination conditions typical of power plants and similarly harsh environments.
		OMEGA 58 Superior Food Machinery Grease, OMEGA 78 Food Grade Anti-Corrosion Grease	Superior performance multipurpose greases.
		OMEGA 73 Waterproof Open Gear Lubricant	Non-solvent containing grease for the lubrication of open gears and bearings. Super affinity to metal to resist fling-off and wipe-off. Outstanding water resistance to minimize washoff in wet conditions. High EP properties to prevent gear surfaces scoring, galling and scuffing.
		OMEGA 77 EP Bearing & Chassis Grease	Formulated especially to resist oil separation in high speed rotating equipment, to protect against wear, rust and corrosion.
Hydraulic Applications 	High pressure, foam formation, oil migration and fling-off	OMEGA 85 "Shear Sensation Plus" All-Purpose Grease	High performance heavy-duty, polyurea-thickened multipurpose EP grease, for electric motor bearings. Shear-stable with excellent extreme pressure and load-carrying characteristics.
		OMEGA 580 Superior Food Machinery Oil OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	High performance lubricants to satisfy a wide range of multi-use equipment requirements.

CRITICAL COMPONENTS OF POWER GENERATION EQUIPMENT	LUBRICATION CHALLENGES	OMEGA SOLUTIONS	OMEGA ADVANTAGES
Hydraulic Applications  	High pressure, foam formation, oil migration and fling-off	OMEGA 612 Universal Lubrication & Hydraulic Oil OMEGA 606 Multi-Grade Hydraulic Oil	Designed for industrial and mobile service where antiwear lubricants are required. For use in high-speed, high-pressure piston, vane and gear pumps.
		OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	Supreme performance hydraulic oil formulated from synthesized, wax-free hydrocarbon base fluids combined with a carefully engineered super-stabilized additive package.
		OMEGA 696 "Dura-Power" Drive Train & Hydraulic Fluid	Formulated from advanced based oils and a balanced additive package to satisfy a wide range of heavy-duty hydraulic equipment requirements. Drive-train lubricant engineered to meet rigorous specifications required by Caterpillar TO-4.
Components Requiring Mist Oil Applications 		OMEGA 605 Superior Air Line Lubricant OMEGA 609 Food Grade Air Line Lubricant	Highly suitable for the oil-fog or mist-lubrication of machine components such as slideways, bearings, gears, chains, etc. OMEGA 605 bonds tenaciously to working surfaces for long-lasting protection, contains foam inhibitors to reduce pressure on seals and boost overall performance. OMEGA 609 features extremely stable viscosity profile under widely varying operating conditions. Unmatched resistance to oxidation.
Mobile Equipment Chassis and Bearing 	Water contamination and rust	OMEGA 22 OMEGA 57 Super Bearing Grease OMEGA 77 EP Bearing & Chassis Grease OMEGA 85 "Shear Sensation Plus" All-Purpose Grease	Superior EP greases, exceptional resistance to the water contamination conditions typical of surface mining, and off-highway conditions.
Pump  	Extreme temperatures, formation of foam and varnish that reduce pump efficiency	OMEGA 612 Universal Lubrication & Hydraulic Oil OMEGA 606 Multi-Grade Hydraulic Oil	Anti-wear hydraulic oils specially formulated to withstand wide temperature range applications. High shear stable and high viscosity index ensures all-temperature performance. Built-in air and water-release agents to eliminate foaming and water emulsions. Contains excellent oxidation while fighting sludge, varnish and gum build-up.
		OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	Provides up to ten times operating life of ordinary compressor oils used in rotary vane and rotary screw compressors. Suitable for use down to -40°C. Virtually eliminates oil foaming and varnish formation.
		OMEGA 611 Super Refrigeration Oil OMEGA 615 Synthetic Air & Refrigeration Compressor Oil	High performance naphthenic mineral oils engineered for use in refrigeration compressors. OMEGA 611 offers constant lubrication to rotors, pistons and bearings in all types of refrigeration compressor systems. Contains special foam suppressors to minimize foaming in compressors. OMEGA 615 is formulated with the blending of advanced synthetic POA (polyalphaolefin) for the most thorough lubrication. Leaves no harmful varnish or carbon deposits – eliminates maintenance cleaning of compressors.
Refrigeration Equipment 	Oil foaming and frequent cleaning needed. Wax deposit.		

CRITICAL COMPONENTS OF POWER GENERATION EQUIPMENT	LUBRICATION CHALLENGES	OMEGA SOLUTIONS	OMEGA ADVANTAGES
Components Exposed to Rust & Corrosion Attack 	Oil separation, water washout, rust, metal corrosion & oxidation 	OMEGA 78 Food Grade Anti-Corrosion Grease	Super corrosion resistance. Features excellent EP and AW properties. Protects and extends the life expectancy of critical equipment by its powerful "fish-scale" like pattern coating. Formulated to offer exceptional mechanical stability, reduced wear, and excellent resistance to water and rust. Outperforms greases such as lithium complex, aluminum complex and polyurea.
		OMEGA 95 Super Corrosion-Control Grease	Features exceptional shear stability, oxidation resistance and high penetration. Highly resistant to water and washout. Excellent protection against rust, corrosion and wear.
		OMEGA 612 Universal Lubrication & Hydraulic Oil	Specially designed as run-in or lay-up lubricant, provides effective rust preventive films on the internal surfaces of machinery. Turbine-quality circulation oil containing anti-oxidants and defoamants.
		OMEGA 636 Jamaican-Base Universal Maintenance Oil	Made with pure Jamaican pimento oil for enduring quality. Four-in-one action – lubricates, penetrates, lifts water & inhibit rust formation. Unprecedented standard of protection for metal surfaces against corrosion caused by oxidation.
Steam Cylinder 	High temperatures and corrosion	OMEGA 670 Straight Mineral Gear Oil	100% straight paraffinic gear oil designed for high-purity applications. Withstands acid, heat and wear. Provides exceptional protection against metal corrosion and oxidation.
Transmission, Differential and Final Drive 	Acids, sludge and carbon deposits	OMEGA 696 "Dura-Power" Drive Train & Hydraulic Fluid	High performance multipurpose tractor lubricant engineered to meet or exceed transmission and hydraulic fluid requirements.
		OMEGA 690 Super EP Gear Oil	High quality commercial gear lubricants formulated from select based oils and an advanced additive package. Engineered to meet the most demanding extended drain and OEM requirements.
		OMEGA 699 Super Automatic Transmission Fluid	Provides superior thermal stability – resists temperatures up to 176°C. Completely sulfur-free to prevent damaging acid formation – improves system cleanliness for optimum transmission performance. Free from heavy waxes found in ordinary transmission fluids – prevent sludge or carbon solids.
Gas Turbine 	High operating temperatures leading to premature turbine oil failure. Requires lubricants with high temperature oxidative stability (175°C), good air release, minimized foaming and no rusting	OMEGA 612 Universal Lubrication & Hydraulic Oil	Engineered for use in gas and steam turbines and applications under the most severe operating conditions. Anti-magnetic formulation – will not attract metallic dust & particles. Superb lubrication with anti-wear and anti-rust additives for consistent and long-lasting protection. Ideal for turbine application with its high viscosity index – viscosity remains constant throughout temperature fluctuations and retains its texture regardless of varied conditions. Special supplements to promote interface tenacity and hold lubricant in position – resists migration and fling-off. Special anti-foam additive – resist foam formation even at elevated temperatures.
Steam Turbine 	Constant and harsh water contamination, reduces oxidation stability and promotes rust. Extreme heat causing reduced turbine oil life through elevated oxidation. Need lubricants with moderate temperature oxidative stability (95°C), excellent water-shedding and air release properties, minimized foaming as well as no rusting	OMEGA 612 Universal Lubrication & Hydraulic Oil	Premium performance turbine oil that is engineered to meet the requirements of the most severe steam turbine designs and operation, with maximum oil charge life. Offers superior property retention capabilities against premature oxidation because of additive dropout and base stock oxidation. High quality base stocks, characterized by higher percentage saturates, lower percentage aromatics, and lower sulfur and nitrogen levels.
		OMEGA 606 Multi-Grade Hydraulic Oil	Ideal for steam and hydro turbine sets and other systems where long lubricant service life is required. High shear stable and high viscosity index ensures all-temperature performance. Built-in air and water-release agents to eliminate foaming and water emulsions. Contains excellent oxidation inhibitors – protects against rust and corrosion while fighting sludge, varnish and gum build-up.

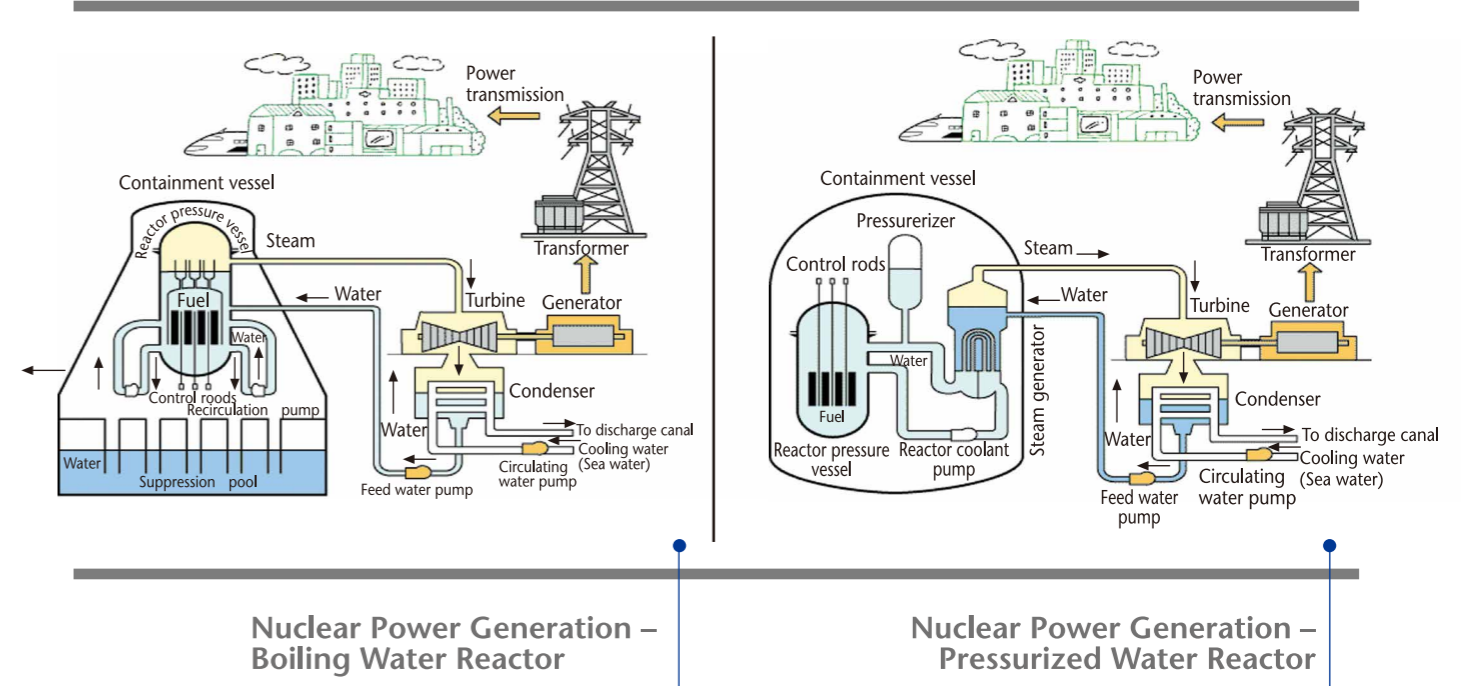


● ● ● OMEGA "7 – Point" Maintenance & Lubrication Program for Turbines



Benefits of Adopting the **7-Point Maintenance & Lubrication Program** and Using OMEGA lubricants for Your Turbines

- 1. Comprehensive Inspection Prior to Filling**
 A comprehensive site inspection is necessary to assess logistics requirements, the specification and volume of lubricants, filtration and purification methodologies and potential HSE spill containment.
- 2. Commission Fill & Recirculation**
 Commission fill & recirculation incorporates on-site filling of oil into the turbine and the removal of solids contamination from turbine manufacture and installation. The oil should be filtered according to equipment specification.
- 3. Oil Change**
 The regular process includes properly dispose waste of used turbine oil, refilling the turbine and filtering the oil to equipment specification.
- 4. Recirculation Filtration & Purification**
 This involves the removal of solid contaminants and soluble water from turbine oil. They are essential in maximizing the life of your turbine oil. After each service, the oil should be tested according to the specifications of the equipment as well as the expert recommendation of the lubrication provider.
- 5. Failure Flushing**
 It is intended to isolate the nature and possible location of debris from failure and instituting a flushing regime that concentrates on the impacted area.
- 6. Filtration of Bulk Storage & Ancillary Systems**
 While ancillary and bulk storage facilities are only required on an as needs basis, water and other particulates can often accumulate. An annual filtration should be planned to remove these contaminants and get these systems clean and dry, and ready when needed.
- 7. Survey and Study on Oil & Filtration**
 Filter service life can be optimized and associated maintenance costs reduced by conducting this survey and study. The objective is to ensure that system cleanliness targets are achieved.



Nuclear Power Generation – Boiling Water Reactor

Nuclear Power Generation – Pressurized Water Reactor