

Industry Brochure

Energy Generation

POLYMER GROUP LTD

ENERGY GENERATION

# ASSET PROTECTION: CONCRETE & STEEL

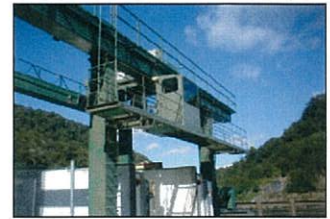


Outages in the energy generation sector mean loss of revenue. The shorter the outage, the sooner the asset can be returned to production. When scheduling maintenance for structures and appurtenant structures, the Maintenance Engineer needs to know he has selected the right product solution to ensure the asset is returned to service on time.

Polymer Group Ltd offer fully qualified field personnel to conduct maintenance audits in conjunction with engineering staff, prepare specifications and assist with product selection and then deliver a sole responsibility supervised installation process.

An integrated range of high performance products for the protection and maintenance of concrete and steel substrates makes available a variety of solutions dependent on the exposure environment, the condition of the asset and the outage/timeframe available.

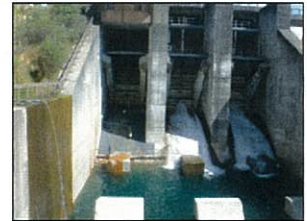
Project organization, product application, quality assurance and follow up are all conducted in accordance with the company's ISO 9001:2000 accreditation procedures.



## Structures—Concrete & Steel

In hydro and geothermal generation environments, severe exposure conditions are often the norm. Corrosion of steel structures and erosion of concrete structures, together with waterproofing of the power house, are vital maintenance issues.

Durable, long term solutions offering maintainable protective surfaces can minimize future downtime and maintenance costs. The latest generation rapid cure, tough, resilient membrane technology can quickly and cost effectively replace aging sheet membranes or can similarly be utilized to repair eroded concrete substrates offering an alternative to expensive steel plating or cementitious concrete repair. Repairs to eroded or leaking canals, tunnels, spillways and headraces can be effectively undertaken with a combination of rapid curing repair and crack injection chemically engineered solutions.



## Surface Preparation & Quality Assurance

As with any coating or substrate repair process, the end result and the durability of the finished product will be entirely dependent on thorough surface preparation and attention to application detail. The Polymer team of qualified experienced application chemists and engineers set and maintain rigorous standards of quality assurance at all stages of any project with which they become involved. Where necessary this may extend to the creation of a completely controlled environment, particularly for the installation of rapid cure plural component coatings and linings. All quality control procedures are robust and traceable ensuring we deliver the job that our client has contracted for. Liaison with the client and the client's engineering representatives is maintained throughout the contract process.



# Appurtenant Structures

## Penstocks/gates/tail races/stop logs/service equipment



Coating and maintenance solutions for appurtenant structures are very dependent on their exposure environment. In the benign McKenzie Country many original coatings are still offering daily protection after 30 years plus exposure. While the exterior of penstocks can be relatively easily accessed for coatings maintenance, the interior is a different story. The unit must be taken out of service, the work space environment is confined, surface preparation needs to be thorough and the protection system must provide excellent anti corrosive properties and long term durability. Rapid cure and solventless plural component applied materials, often derived from tank lining technology can offer faster turn-around and return to service than conventional coating systems. They do however, demand greater environmental control during the application phase. The equipment required is also specialized and must be operated by suitably qualified technicians. Polymer Group personnel not only understand the technology behind these materials, but are experienced in both their formulation and application.

very severe environment, providing a challenge to any coating system. Product selection and detailing of installation is vital in these difficult to access areas.

Gates, spillways and stop logs all combine to provide a vital service to a hydro facility and are items that usually only see very occasional maintenance. It is therefore essential that when a gate is taken out of service for replacement of a seal, or other maintenance, that the opportunity afforded is taken advantage of to conduct other maintenance in the immediate vicinity. Our experienced field staff can coordinate cementitious repairs and steel substrate coating repairs concurrently.



Often appurtenant structures are a combination of steel and concrete substrates (eg tailraces). These areas can provide a



## Product Selection



High performance marine & protective coatings



Wear resistant linings



Concrete repair systems



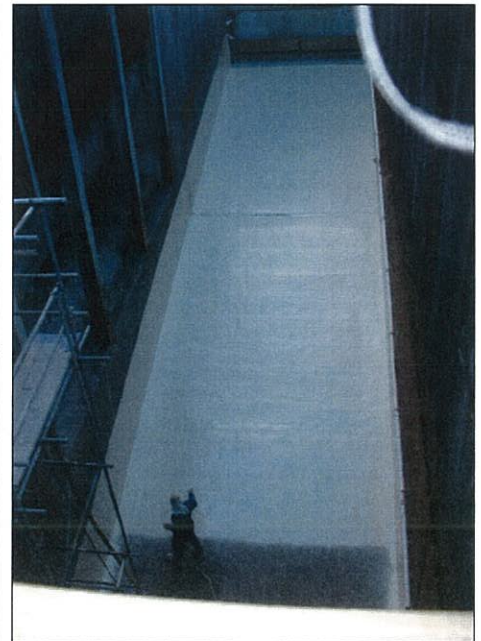
Concrete flooring systems



Waterproofing systems



Many projects require a carefully selected combination of product solutions. The Polymer Group integrated range of products enables our field personnel to provide a comprehensive solution for almost every application. We will then either work in conjunction with your preferred contractor or simply look after the entire project for you. We call it "sole responsibility".



## Sole Responsibility Contracts

Polymer Group Ltd pioneered the introduction of sole responsibility supply and install application contracts in the mid 1980's. Listed amongst our clients for whom we have completed such contracts are:

- Genesis Energy
- Trust Power
- Mighty River Power
- Meridian Energy
- New Zealand Refining Company
- Fonterra Co-Operative Group



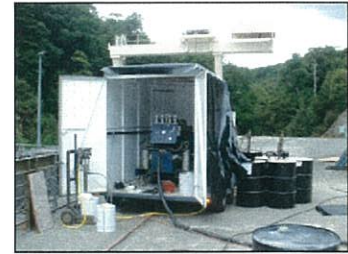
The advantages for the client of a total responsibility contract are numerous:

1. Simplicity of administration
2. A single entity providing complete project management
3. Integrated warranties which cover not only material but also preparation, application
4. Ongoing maintenance surveillance and management (if required).



Polymer Group Ltd has its own highly experienced, technically qualified staff providing the same level of quality assurance on-site as the company operates

under for its manufacturing facility which is a Telarc Registered entity (ISO 9001:2000).



On-site labour and application services are provided by trained Polymer Group applicators under the supervision of Polymer Group's Contract Manager, Ron Avery. Working in conjunction with the client the company is able to provide full project organization including equipment and sundry services.



## Case Histories



Waihothonu Intake—Genesis Energy



Atiamuri Roof—Mighty River Power



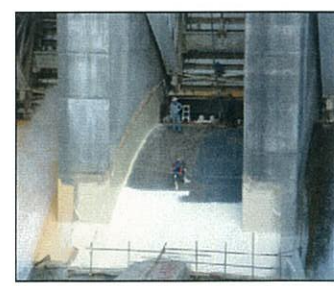
Wheo Head Race—TrustPower



Lake Coleridge Floor—TrustPower



Hamilton Roof—Meridian Energy



Rangipo Control Structure—Genesis Energy



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<b>Chemically Engineered Solutions for Extreme Environments</b>

**Polymer Group Ltd** is an applied technology company comprising a team of industrial chemists, engineers and qualified coatings inspectors which has served New Zealand industry for over 25 years.

**Property Asset Protection** is the company's major focus, providing proven, durable solutions for the **protection of structural steel, concrete and timber** structures.

**Wear resistant, Anti-corrosive Protection Systems** are engineered to provide optimum performance and extended maintenance intervals.

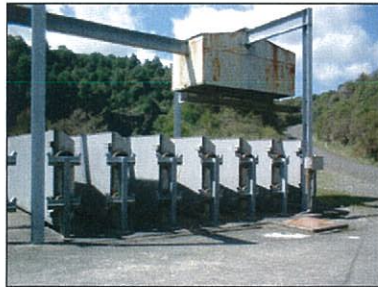
**Surface Coating Technology Advances** offer multiple choices to the asset manager and civil engineer who is seeking long term solutions and minimum downtime, but not always able to provide an optimum application time frame.

**Maintenance Assessments and Specification Options** give the client the opportunity to inspect and discuss the asset with experienced personnel, taking into consideration the exposure environment, past performance of any existing protection systems, available downtime and other constraining influences.

**Sole Responsibility Material Supply and Application Contracts** provide the client with further reassurance that their protection/maintenance systems are supplied and installed by a **Quality Assured, ISO 9001:2008** company.

[ We are on the Web  
[www.polymer.co.nz](http://www.polymer.co.nz) ]

## Solutions for your Extreme Environment



- Jotun® Marine & Protective Coatings
- Rhino Linings® Durable Coatings
- Polibrid® Durable Linings
- Tremco® Waterproofing Systems
- Nullifire® Fireproofing