### Samsung Everland Cracking Heater Optimization Program Revitalizing the heart of ethylene plants





### Samsung Everland, the Energy Value Creator

### Samsung Everland's vision is to create more energy efficient society.

With Samsung Everland, you will experience value-added energy solutions derived from advanced technologies and the state-of-the-art project management process.

## CRACKING HEATER OPTIMIZATION PROGRAM

### Do you want to increase the competitiveness of your plants?

Improving plant efficiencies has always been the top priority for many plant owners in their concerted effort to stay one step ahead of the peers in a very competitive business environment, NCC (Naphtha Cracking Center) plants in particular have been subjected to rigorous initiatives continuously, leading the plant owners to realize that maintaining highly energy efficient and productive plants is the key to their success.

To fulfill the needs of the plant owners, Samsung Everland, since 1998, has been at the forefront as the leading company in Korea to implement its unique Cracking Heater Optimization Program that enhances the performance output profile of Naphtha Cracking Centers

With undying passion and ceaseless effort, Samsung Everland continuously explores different and creative ways to ensure that your future is one that comprises such qualities as competitive edge, values, and differentiation. A successful partnership will be created when Samsung Everland is chosen as your partner.





Samsung Everland continues to provide key values to customers.



### | Fast Performance |

Samsung Everland can finish on-site construction within 30 days for retrofitting & revamping projects with one heater on stand-by, resulting in a minimum time loss of normal plant operation.



### Reliable Performance

Samsung Everland guarantees to deliver a top-notch quality performance in executing projects, meeting the design needs of original license requirements.



### Total Management

Samsung Everland can manage the whole project with expertise in licensor management and construction management, ensuring the successful completion of given projects.





Through an established quality control system, Samsung Everland offers the customized service from basic package contract and detailed engineering to procurement and construction.

#### 1 Basic Package

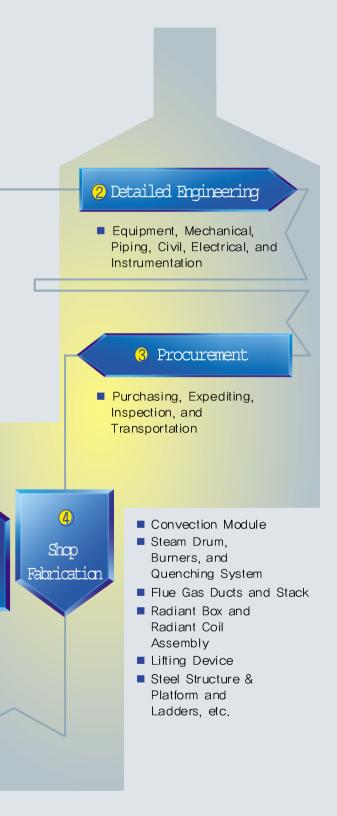
- Establishing Liaison Relationship with Basic Licensors
- Project Management
- Cost Estimating

#### 6 End

- Test & Flushing, Pre-Commissioning
- Radiant Coils
- Convection Module
- Piping (X-over, Steam, Feed, Effluent, and Utility)
- Counter Weight & Spring Hanger System
- I.D. Fan & Silencer, Transfer Line Exchanger, and Steam Drum
- Electrical & Instrument. Steel Structure & Platform, and Ladders, etc.

Field Erection

5



### CRACKING HEATER RETROFITTING & REVAMPING

### More Ethylene Production

Samsung Everland offers retrofitting & revamping of existing cracking heaters. This will increase ethylene production capacity and improve energy efficiency as well.

### Performance Enhancement of Radiant & Convention Sections

Samsung Everland's core competencies are distinguished by the ability in retrofitting & revamping the convection section as well as the radiant section in typical cracking heaters. In addition, actual on-site work will be completed within 30 days with one heater on stand-by. Thus, the work can be done without impacting normal operations at the plant.

#### Determining Most Applicable Design Modifications |

By determining most applicable design modifications, our customers have significantly improved their production capacity. Such modifications as changing of original licensors have been successfully undertaken by Samsung Everland.

Samsung Everland has successfully completed more than 40 cracking heaters of petrochemical companies.

#### Yeochun NCC Co. Ltd., No.1 Plant, Naphtha Cracking Heaters (South Korea)

- No. of Cracking Heaters : 10
- Original Licensor : ABB Lummus
- New Licensor : Stone & Webster
- Days to Complete : 25





### CRACKING LEATER RETRO & REVAMPING

LG Petrochemical Co. Ltd., Ethane Cracking Heater (South Korea)

- Original Licensor : ABB Lummus - New Licensor : Stone & Webster - Days to Complete : 25





## NEW & ADDITIONAL HEATER INSTALLATIONS

### | Maximizing Profit through Product Capacity Expansion |

Samsung Everland's experience in cracking heater projects extends beyond just retrofitting and revamping projects. Having significant experiences in capacity expansion projects, new or additional, Samsung Everland can truly pride itself in providing a comprehensive Cracking Heater Optimization Program unlike others in the industry.

### | Maximizing Desired Results with Minimum Cost |

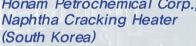
Samsung Everland's different experiences in completing cracking heater projects by integrating its know-how accumulated over many years have proven to be the critical success factor in its Cracking Heater Optimization Program. In addition, Samsung Everland's ability to ascertain the best and the most cost-effective supply chain management directly translates into the cost-competitive value proposition for the clients. Moreover, Samsung Everland's ability to minimize the project completion time through the optimized construction process helps clients' bottom line.

Samsung Everland has implemented several capacity expansion projects.



- No. of Cracking Heaters : 2 - Licensor : Stone & Webster - Months to Complete : 12





# Your True Partner, Samsung Everland

Samsung Everland -Shares Your Vision for a Better World by Making Your Sweats and Tears Meaningful

As a trusted partner worldwide, Samsung Everland will continue to grow and expand by becoming an important partner for your future.



