Project Number	YS-8500
Project Name	Eastern Creek TNG Operation and Maintenance

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THE NEXT GENERATION (NSW) Pty Ltd
Energise Your Future

The Next Generation
Eastern Creek Industrial Estate
Eastern Creek, NSW
Australia

Rev	Author (Name, Date, Signature)	Reviewer (Name, Date, Signature)	Approver (Name, Date, Signature)	Short description of change
0.0	Bosko Lazic 02.05.2017	Alfred Sigg 02.05.2017	Marc Stammbach 02.05.2017	First Issue (Extract from HZI O&M Proposal dated Feb. 29, 2016 – Section 5)
1.0				
2.0				
3.0				

DocType	AOF	Doc No _ Rev
Contractor	HZI	Eastern Creek TNG Energy from Waste O&M Corporate Support Matrix
Contractor		

Table of Content

1 CORPORATE SUPPORT MATRIX

1.1 Corporate Technical Support

The new Eastern Creek EfW plant operations and maintenance organisation will be fully supported by Hitachi Zosen Corporation and its wholly owned subsidiary HZI, headquartered in Zurich, Switzerland. Together they form a global leader in EfW plant design and associated environmental control technologies, related research and development, component and plant engineering and design, procurement, construction, erection, commissioning as well as operation and maintenance.

HZI in turn is the owner of the following subsidiaries:

- Hitachi Zosen KRB AG in Buchs, Switzerland
- Hitachi Zosen Inova Sydney Plant Management Company (HSPMC) in Sydney, Australia – to be established

Fig. 5.1 depicts the organization chart and the integration of the new HSPMC into Hitachi Zosen Corporation. The planned locally registered operations & maintenance company for The Next Generation EfW plant will be a wholly-owned subsidiary of Hitachi Zosen Inova AG, Zurich, Switzerland.

As the Original Equipment Manufacturer (OEM) for all the key Energy-from-Waste technologies including waste feed path, combustion system, grate, boiler and the flue gas treatment and emission control equipment, and as the EPC contractor for the turn-key EfW plant, HZI is uniquely qualified to assist the plant in achieving high levels of performance, reliability and availability. Also as a major corporation and global supplier, HZI provides support service organizations in engineering, supply chain management, health & safety and human resource development. As a full service organization, HZI personnel and resources are always available to support plant operations and maintenance.

HZI currently has over 400 staff employed at its headquarters in Zurich, Switzerland.

1.2 HZI Technology and Support Matrix

The locally registered firm, HSPMC, will be operating and maintaining The Next Generation EfW plant with its dedicated 48 employees (see Sections 6.3 and 6.4). This organization will be supported by HZI Zurich. The latter, in turn, can draw on the resources of HZC. Figure 5.2 shows the HZI support matrix that will be available to the team at The Next Generation EfW plant.

HZI's Zurich home office engineering organization consists of over 400 engineers, technicians, designers, and other professionals covering every aspect of plant design, functionality and management. They include the combustion, steam generation, power generation, flue gas treatment, research & development (R&D) and procurement areas. The project execution department employs105 professionals. This department encompasses project management, project engineering, civil engineering, EI&C engineering as well as commissioning. Last but not least the service department employs 45 professionals specialized in executing plant overhauls (outages), retrofits, spare parts deliveries, AD service, O&M proposals and O&M management areas.

The HSPMC employees will be able to count on the support of the commissioning team consisting of 19 professionals to support them on issues of plant operation. The Eastern Creek O&M Maintenance crew can draw on a pool of 14 outage managers and 6 spare parts professionals from the HZI Switzerland Service department.

The HSPMC local team will also be able to count on the support of a very large and experienced team of professionals in the technical and process consulting disciplines. Thus a total of 140 professionals and experts from the technical departments CSP, FGT, WSC, EIC, BOP, Civil and the Laboratory from HZI will be available to support the operations and maintenanc83768376e teams of the HZI-Sydney Plant Management Company.

In the practical disciplines, such as human resource management and for legal matters a combined team of 11 professionals is available to support the HSPMC administration.

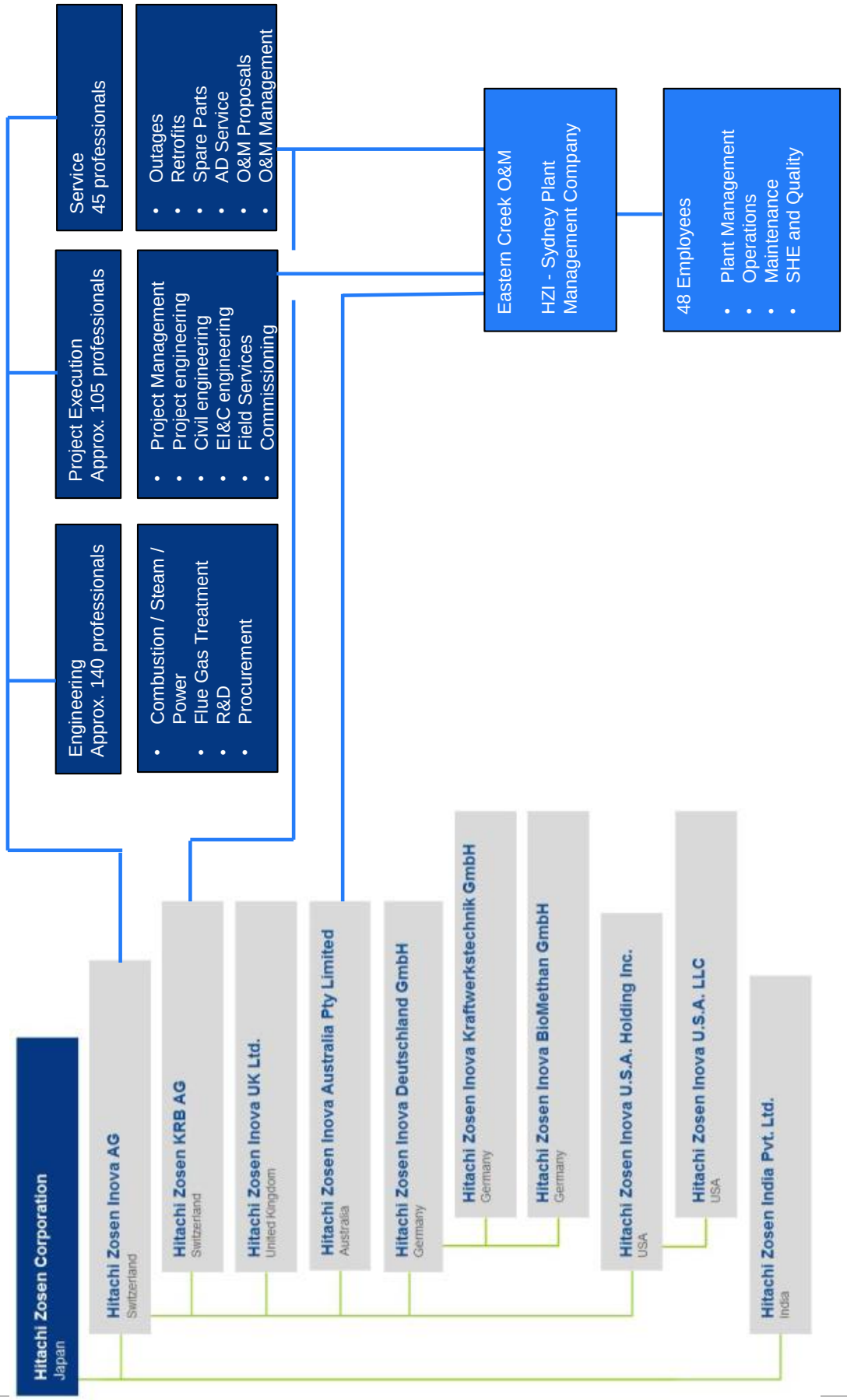

Fig. 5.1 – Organization Chart of Integration of HZI Eastern Creek O&M Firm into Hitachi Zosen Corporation

Fig. 5.2 – Support Matrix for the HZI Australia O&M Business

1.3 HZI Service

HZI's service organization specializes in meeting the needs of plant operators after they have taken over the EfW plant, following commissioning. Their services include the delivery of spare parts, the organization, project management, staffing and execution of plant overhaul outages, upgrades and retrofits and general engineering services related to EfW plant operation.

More than 40 professionals are at the plant operator's disposal, including 11 from engineering, 14 outage project managers and 6 employees in the spare parts department.

The HZI service organization's plant overhauls include; grate and ram feeder rebuilds, boiler cleaning and repairs, refractory filter repairs, maintenance, IBA extractor maintenance, scrubber and fabric fan maintenance, etc.

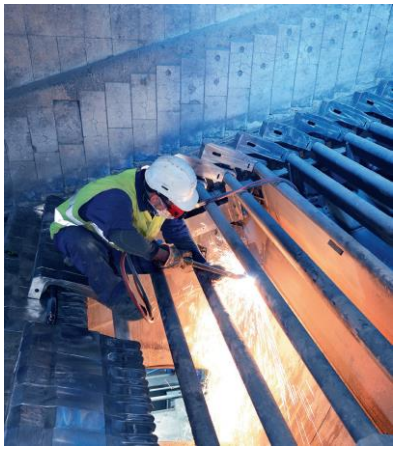

Fig. 5.3 – Maintenance work done by HZI Service on an HZI grate

Fig. 5.4 – Spare parts management by HZI Service

HZI's service organization has conducted overhauls in the following countries: Germany, Sweden, Switzerland, Czech Republic, Italy, Netherlands, Spain, Austria, UK and Luxembourg. The number of annual overhauls that HZI's service organization has conducted per year has steadily risen to over 50 in 2013. This is topped by HZC who performs over 100 overhauls each year.

1.4 Hitachi Zosen - KRB

KRB Boiler and Piping Fabrication Workshop is HZI's wholly owned subsidiary in Buchs, Switzerland, shown in Fig. 5.5. KRB specializes in the manufacture and repair of boiler pressure parts and equipment components. Machine capabilities include welding robots for membrane walls, surface cladding (Inconel) of tubes and membrane walls (Fig. 5.5 a), bending of boiler tubes and membrane walls, to name just a few. KRB also manufactures HZI-designed systems for EfW plants such as bottom ash extractors (Fig. 5.5 e), ram feeders as well as grate elements (Fig. 5.5 c) and is available to install boiler parts and equipment on site at EfW plants (Fig. 5.5 b) or consult in optimizing such repairs. As such KRB and its staff of 26 constitute an important support organization for HZI's O&M activities.

Furthermore, KRB's services also include the measurement of wall thickness on all pressure parts of a boiler as well as the wall thickness of Inconel cladding.

Fig. 5.5 – KRB Boiler and Piping Fabrication Workshop, HZI's wholly owned subsidiary in Buchs, Switzerland, specializing in the manufacture and repair of boiler pressure parts and equipment components (KRB)

Fig.5.5 a - Robot for welding Inconel cladding onto membrane walls (KRB)

Fig. 5.5 b – Hoisting of a replacement superheater tube bundle with a mobile crane to the top of the boiler building for installation during annual overhaul (KRB)

Fig. 5.5 c – Zones of a grate being manufactured in the KRB workshop (KRB)

Fig. 5.5 e – Manufactured bottom ash extractor ready for transportation (KRB)

Fig. 5.5 d – Manufactured and ready-to-install membrane wall with burner openings (KRB)

Fig. 5.5 f – Connecting piping between the boiler drum and membrane wall (KRB)

KRB also has expertise and experience in the replacement of superheater and economizer tube bundles and membrane walls of boilers during annual outages. An example of KRB's services in this regard is shown in Fig. 5.5 b. A further example of the components that KRB manufactures is the connecting piping between the boiler drum and membrane wall of an EfW plant, shown in Fig. 5.5 f.

While the pressure parts for the TNG EfW plant will likely be sourced in southeast Asia, KRB's experience will be drawn upon to provide consulting as well as quality assurance services. Such activities are expected to begin in operating year 5 and are priced accordingly in this proposal.

1.5 HZI LABORATORY

The laboratory of HZI is focused on meeting the demands of energy from waste (EfW) plant operators. Their range of services is as broad as the variety of questions arising in connection with thermal waste treatment. Their dedicated staff verifies compliance with emission limits and performance parameters, measures relevant process parameters, carries out root-cause analysis in case of operational problems, etc.

Decades of supporting plant operators in all HZI-built EfW plants during commissioning and subsequent operations gives them an extensive data base to draw from. Coupled with an impressive inventory of sampling and analytical equipment uniquely specialized and suited to the needs of EfW plant operators enables the lab team to provide quick and reliable information whenever required.

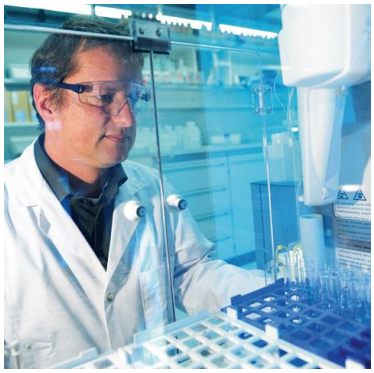

Fig. 5.6 a – HZI's laboratory analytical services

Fig. 5.6 b – An HZI laboratory expert for on-site measurements using portable instruments

Fig. 5.6 c – HZI's laboratory analytical services

The renowned German Quality Assurance / Quality Control (QA/QC) organization, TÜV Süd, has been using the services of HZI's laboratory for several years when planning and executing testing campaigns on EfW plants. The fast response times, profound process knowledge, good working practice and reliable analysis results of HZI's laboratory have been some of the reasons for the continuing successful cooperation between HZI and TÜV Süd.

1.6 Key Persons

Fig. 5.7 depicts the organization chart of HZI. The following is a list of key know-how carriers within the HZI organization who contribute in significant ways to the successful design, execution, operation and maintenance of EfW plants.

René M. Süsstrunk – Vice President, HZI Service

Mr. Süsstrunk is responsible for directing all of HZI's service activities. He manages a team of project managers tasked with performing overhauls of Energy from Waste plants built by HZI in many European countries. Also, an engineering team designs customized retrofit solutions to

maintain plants on a state-of-the-art level and improve their performance. The spare parts supplies also fall under Mr. Süsstrunk's responsibilities, as well as the Operations and Maintenance activities of HZI.

Mr. Süsstrunk has been with HZI since 1995. Prior to his current assignment he acted as project director for several EfW plants in Norway, Germany and the Netherlands and was tasked with overseeing HZI's project execution department. Before joining HZI Mr. Süsstrunk spent 11 years in the oil & gas industry commissioning and operating thermal turbo machinery

He holds a degree in mechanical engineering from the Institute of Technology in Winterthur, Switzerland as well as a degree in business management.

Valentin J. Sieber – Vice President, HZI Project Execution

As HZI's VP of project execution, Mr. Sieber is responsible for the delivery of turnkey EfW plants to all customers within the time, cost and performance constraints agreed. He manages over 100 professional engineers and technicians in HZI's offices in addition to the staff at the various construction sites. He also has at his disposal 19 commissioning engineers who make certain the plants go into operation following HZI's operating guidelines and perform according to the contractual terms. At any given time Mr. Sieber is involved in up to a half dozen EfW construction projects.

Mr. Sieber joined HZI in 2008 and brings with him vast experience in engineering, project management gained at numerous large utility projects in Europe, Asia, China and South Africa. He is an expert in matters involving management development, industrial relations, contract management, quality management (Six Sigma Green Belt) and risk management.

Mr. Sieber graduated from the Institute of Technology in Biel, Switzerland with a degree in electrical engineering as well as the University of South Africa in Pretoria as Master in Business Leadership.

Philipp Bader, Vice President, HZI Combustion and Steam Power

His degree in process engineering from the Swiss Federal Institute of technology in Zurich, Switzerland provides Mr. Bader with excellent qualifications to lead HZI's engineering organization tasked with designing and delivering state-of-the-art thermal waste treatment plants. He is responsible for 75 engineers who design and construct all aspects of HZI's core product, the combustion grate system and the associated steam generators to recover energy. Innovative approaches drive Mr. Bader to find new ways to answer questions arising from the ever-changing area of waste management.

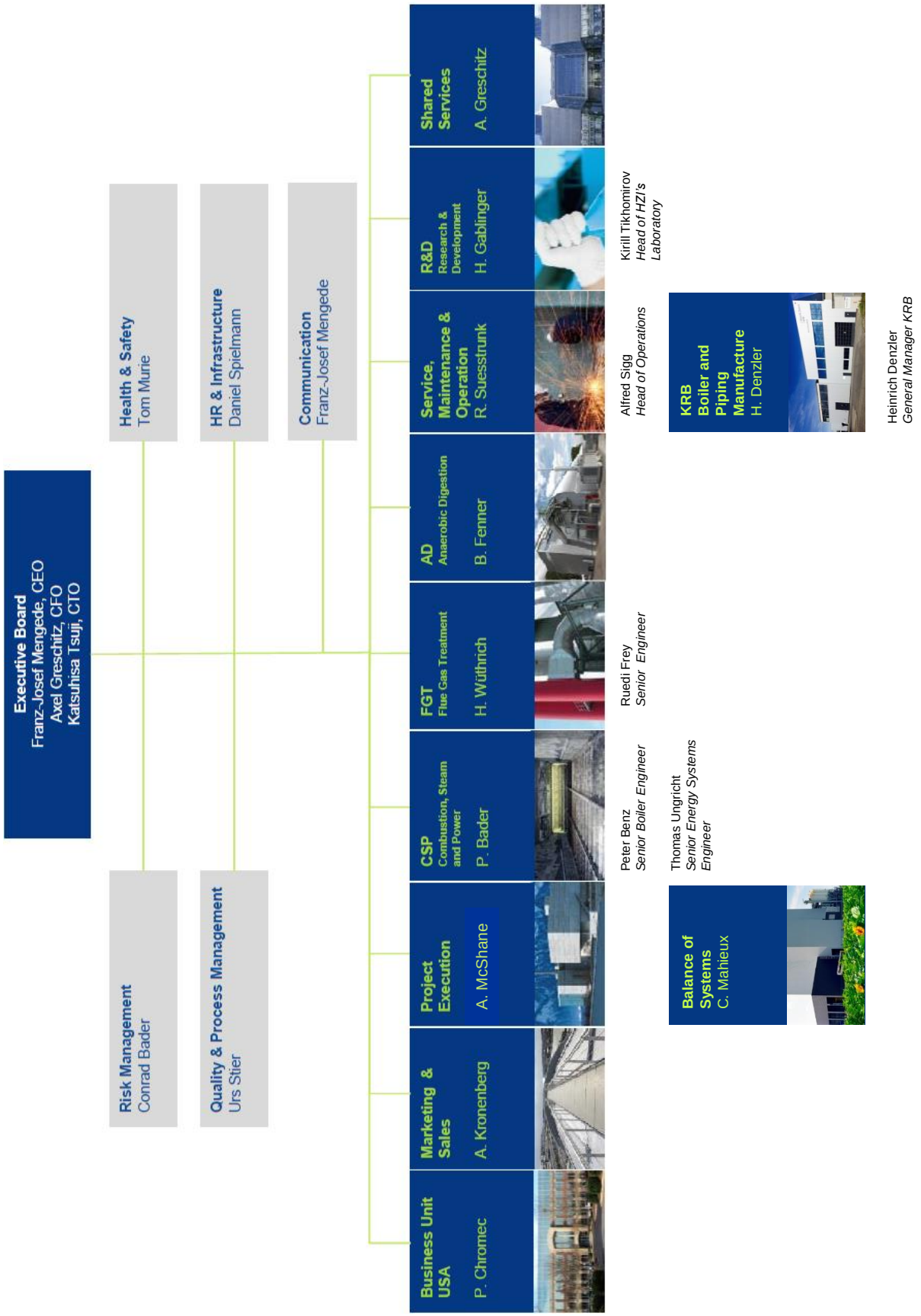

Fig. 5.7 – Organization Chart of HZI Switzerland

Mr. Bader has been with HZI since 1991 and has been responsible for system engineering, boiler design, flue gas treatment system design, product procurement and supply management. These roles have provided Mr. Bader with a comprehensive perspective of all aspects of thermal waste treatment plant design and project and engineering management.

Hans Wüthrich – Vice President, HZI Flue Gas Treatment

In his role as leader of HZI's System Unit FGT, Mr. Wüthrich is responsible for technology development and product delivery of HZI's in-house flue gas treatment systems. A long history with HZI since 1991 make him uniquely qualified for this assignment.

In his past Mr. Wüthrich was instrumental in managing the development and execution of a significant HZI development project involving an innovative and revolutionary new approach to thermal waste treatment. Following completion of the project he remained as operations manager of that plant in support of the owner's team. Management of EfW project execution and commissioning of several new plants provide Mr. Wüthrich with a strong foundation for his current assignment.

Mr. Wüthrich holds a mechanical engineering degree from the Institute of Technology in Winterthur, Switzerland as well as a degree in business engineering from STV in St. Gallen, Switzerland.

Kirill Tikhomirov – Head of HZI's Laboratory

Dr. Tikhomirov manages a small but highly qualified team of laboratory technicians and the laboratory facilities of HZI. His team is dedicated to collecting and analyzing samples of various materials used or generated in the course of treating municipal solid waste. His duties also include measuring flue gas, air and water quality and characterizing solid waste, bottom ash and boiler residues and providing process engineering advice on the basis of the results found. The services of HZI's laboratory are sought after by operators of EfW plants in order to provide qualified results for their compliance reports to regulatory agencies and support their operations staff in trouble shooting tasks.

Dr. Tikhomirov, with HZI since 2008, has been instrumental in continuously optimizing, maintaining and updating HZI's analytical capabilities. As a result the laboratory is uniquely specialized in performing all analytical tasks associated with the day-to-day operation of an EfW plant.

Dr. Tikhomirov received his MS and BS degree in physical chemistry from the University of Novosibirsk, Russia and his PhD in chemistry from the Swiss Federal Institute of Technology in Zurich, Switzerland.

Helen Gablinger – Director of Research & Development

Dr. Gablinger joined HZI in 1989 as a chemical engineer responsible for process design and sizing of EfW plants. Within a few years she took over the leadership of the system unit FGT and further developed that technology in the EfW market. This helped establish HZI as leading provider of turnkey EfW plants with in-house technology from chute-to-stack.

Dr. Gablinger then acted as Vice President of Marketing and Sales with responsibilities for key regions of HZI in Europe and Asia, followed by an assignment to direct the worldwide sales activities of a German HZI subsidiary.

The experience gained from these activities prepared her well for the role of leading HZI's EfW research and development activities. Her team of 20 research engineers and technicians remain focused on developing solutions to continuously improve and expand HZI's product line and solve problems raised by HZI's clients.

Dr. Gablinger received her MS in chemical engineering as well as her PhD from the Swiss Federal Institute of Technology in Zurich, Switzerland. She also holds a MBA from IMD in Lausanne, Switzerland.

Heinrich E. Denzler – General Manager KRB

Mr. Denzler leads HZI's subsidiary KRB in Buchs, Switzerland with its staff of 26. KRB has a long history specializing in providing products and services associated with the thermal treatment of municipal solid waste. KRB combines a Swiss sense of quality with outsourcing of certain fabrication tasks to Eastern European locations.

Mr. Denzler's background begins with a long career in the servicing and maintenance of steam turbines and generators, followed by 15 years as facility manager of a Swiss EfW plant. This and his role as head of design for a water cooled grate system provides Mr. Denzler with a solid foundation to lead KRB in the area of EfW plant maintenance. He is continuously on the lookout to optimize KRB's capabilities in terms of machinery and qualifications to support its clients.

Mr. Denzler is a certified mechanic and qualified service engineer.

Alfred Sigg – Director of Operations

32 years of experience in various aspects of waste management ranging from research and development, process and project engineering and execution, sales and general operations management give Mr. Sigg a solid foundation to lead HZI's Operations & Maintenance Organization. He is in charge of defining and establishing HZI's market position as a full service operator of EfW plants designed and built by HZI. In this role he draws from the know-how available in-house to develop operations concepts that generate the most value for the plant's owners.

Prior to his present role as director of operations, Mr. Sigg spent 7 years leading HZI's R&D efforts. His operations experience was developed during his 10-year assignment as general manager of HZI's US hazardous waste incineration plant where he was responsible for a staff of 200 persons.

Mr. Sigg holds a degree in process engineering from the Swiss Federal Institute of Technology in Zurich, Switzerland and an MBA from Georgia State University, Atlanta USA.

Tom Murie – HSE Director

A visionary leader in Health, Safety and Environment with measurable HSE improvement results through people and HSE management systems development in Global HSE Leadership roles over the past 20 years. Mr. Murie holds a NEBOSH Health and Safety Diploma, MBA from Napier University, Edinburgh, UK and a Master's Degree in European HSE Law from Salford University, UK.

Mr. Murie has built up a wealth of extensive global experience within manufacturing, construction and power generation sectors. Specialising in human factors, safety leadership and influencing positive outcomes through people engagement interventions and an aligned HSE strategy. He is a member of the Institute of Occupational Safety and Health (IOSH) and The Association of Insurance and Risk Managers in Industry and Commerce (AIRMIC) with sound commercial understanding of the impacts of good EHS leadership. A certified Six Sigma Green Belt.

Mr. Murie is responsible for HZI's health, safety and environmental compliance program at all sites, including all new construction projects and operations activities.

Peter M. Benz

Dr. Benz received his MS in mechanical engineering from the Swiss Federal Institute of Technology in Zurich, Switzerland (ETH) and wrote his PhD thesis on sulfur dioxide corrosion and mass transfer in boiler systems at that Institute. He then led a team of PhD students in catalytic and lean premixed combustion at the Paul Scherrer Institute of the ETH. He has been with HZI since 1997 and has developed a solid technical foundation for the company's combustion and heat recovery processes. Today he acts as Senior Engineer for incineration and boiler systems, responsible for all technical standards and technological developments. His careful and critical review of any question posed of him makes him an invaluable resource for engineers and operators alike. His boiler designs are driven by a desire for high efficiency coupled with a conservative technical approach.

Thomas Ungricht

As HZI's Senior Engineer for Water Steam Cycle applications, Mr. Ungricht is the technological decision maker when it comes to designing the most appropriate energy recovery concept for specialized EfW plants. Highly efficient turbine cycles and complex heat extraction systems are key to modern resource recovery systems.

His experience in process design, thermodynamic calculations and project execution builds on Mr. Ungricht's degree in process engineering received from the Swiss Federal Institute of Technology in Zurich, Switzerland (ETH). He also received a master degree in business engineering from the same Institute.

Ruedi Frey

Mr. Frey is well known in the EfW industry for his in-depth understanding of flue gas treatment processes and general chemical engineering capabilities. Since 1985 Mr. Frey has fundamentally shaped HZI's FGT product and helped develop the broad spectrum of HZI applications currently on the market. Mr. Frey combines sound analytical skills with a vast practical experience gleaned from dozens of plant start-ups and the continuous support of EfW plant operating teams around the world to provide a solid base for the development, design and evaluation of all variations of flue gas treatment applications.

As Senior Engineer for FGT technology he is a vital resource for plant execution and operation. Mr. Frey graduated with a degree in Chemistry from the Institute of Technology in Winterthur, Switzerland.