SENIOR ENGINEER

DEPARTMENT/UNIT Mechanical and Aerospace Engineering

FACULTY/DIVISION Faculty of Engineering

CLASSIFICATION HEW Level 8

DESIGNATED CAMPUS OR LOCATION Clayton campus

ORGANISATIONAL CONTEXT

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation. For more information about our University and our exciting future, please visit www.monash.edu.

The Faculty of Engineering is one of the largest in Australia, renowned worldwide for the quality and calibre of our teaching, research and graduates. We offer a comprehensive range of undergraduate, graduate, postgraduate and higher degree by research programs in a wide range of engineering disciplines. Our research activities provide a platform for establishing a thriving educational enterprise and our staff are committed to creating a dynamic learning environment. The research activities range from fundamental studies to research with a strong applications orientation. To learn more about the Faculty of Engineering, please visit our website.

The Department of Mechanical and Aerospace Engineering aims to educate the next generation of leaders in the profession of mechanical engineering, generate new knowledge and insight into the processes that govern our discipline, and provide service to the community, our profession and industry. We are the largest department within the faculty in terms of student numbers, offering a range of undergraduate and higher degree programs and a strong and ever growing contingent of students working towards a PhD or Masters Degree. Research is a vital part of the Department's activities and we are renowned for our expertise and world class facilities. For more information about our department and the work we do, please visit our website.

The Maintenance Technology Institute (MTI) is a commercially orientated, professional research and engineering organisation located at Monash University, which provides focused and comprehensive research and development and high-level technical services for the mining and heavy engineering industries. MTI has been providing professional engineering services to the major mining companies; such as BHP, Rio Tinto, Glencore, Anglo American; since 2000. MTI has also developed Real-Time Monitoring solutions to manage the structural integrity of various mining equipment, with a focus towards improving reliability and productivity. For more information about our institute and the work we do, please visit our website.
POSITION PURPOSE

The Senior Engineer is responsible for managing the end-to-end delivery of a program of projects focused on planning, implementation, commissioning and maintenance of MTI products and services for heavy engineering equipment in the mining industry. The equipment involved includes mobile equipment and processing plants, such as draglines, shovels, drills, large mining trucks, excavators, stackers, stacker reclaimers, and ship loaders.

Working on-site in the BHP Brisbane Head Office, the position will act as the key local MTI contact point for BHP, bridging the relationship between BHP, MTI staff and Monash academics. The position works closely with BHP and project stakeholders, both internal and external, across multiple departments and areas to deliver projects in accordance with agreed timeframes, within budget and to achieve project outcomes.

The Senior Engineer is responsible for all aspects of project management, including providing expert advice on project related matters and supporting change initiatives where required, which are in line with the BHP R&D services contract.

Reporting Line: The position reports to the Managing Director, Maintenance Technology Institute at Monash under broad direction, working with a degree of autonomy

Supervisory Responsibilities: This position provides direct supervision to approximately 1 staff

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

1. Act as the key liaison between BHP and MTI staff developing and maintaining strong partnerships between these stakeholder groups, and ensuring communication is transparent and fluid

2. Manage analysis, instrumentation and maintenance projects from conception to final delivery, drawing on current project management methodologies, including scoping needs and identifying project deliverables, developing project plans, budgets and other supporting documents, reporting on progress and performance against project schedules and performance indicators to ensure deliverables are met, and undertaking post-implementation reviews

3. Provide expert advice on all MTI services offered to BHP Dragline capacity and maintenance prediction, I&R Manager, Fracture mechanics and crack growth rate calculation, SMS system (remote monitoring) (Post training for 6-12 months in Melbourne)

4. Engage with site maintenance/shutdown teams to understand any proposed structural changes, and plan accordingly for any updates required for MTI analysis work

5. Provide expert, specialist and technical advice to collaborators, where necessary, drawing on wider MTI team members for specialised knowledge

6. Customised data analysis and reporting, including operator benchmarking and performance assessments and communicate and training BHP mine sites in making use of the reports

7. Develop and conduct training courses on MTI products and reports on mine sites, with a focus on continuous improvement and service excellence

8. Coordinate and prepare reports and presentations for a range of audiences, as required for customers at mine sites

9. Ensure that blueprint information and other documentation is kept updated based on client equipment design/configuration changes

10. Identify and report on risks and risk management processes for changes associated with dragline fleet, and assist with monitoring the impact of risk mitigation strategies
11. In collaboration with MTI and site/project staff, play a lead role in determining and scoping remediation requirements for major shutdowns

12. Manage and develop a highly trained, motivated and efficient project team, with a focus on excellence in project delivery and safe working practices

13. Represent MTI at various mine sites to maintain current relations and to build new relations between clients & MTI

14. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
   - postgraduate qualifications or progress towards postgraduate qualifications in a relevant field and extensive relevant experience in mechanical or structural engineering, ideally with exposure to Dragline and mining operations; or
   - extensive experience in mechanical or structural engineering and project management expertise, ideally with exposure to Dragline and mining operations; or
   - an equivalent combination of relevant experience and/or education/training

Knowledge and Skills

2. Demonstrated significant understanding and capabilities in stress and structural analysis, finite element analysis (experience with ANSYS would be highly regarded), and fatigue of welded steel structures

3. Highly developed analytical, evaluation, research and technical report writing skills including demonstrated ability to quickly assimilate new concepts and information and deliver positive, innovative solutions

4. Highly developed relationship management and consulting skills, including the ability to interact, influence and negotiate with a variety of stakeholders; this will require a preparedness to conduct site visits to engage with customers at various levels

5. Highly developed planning and organisational skills, with experience establishing priorities, allocating resources and meeting deadlines

6. Experience in project management and managing, motivating and developing team members to achieve project objectives

7. Excellent interpersonal and communication skills, including experience in developing professional communication documentation and delivering effective presentations

8. Basic understanding of SQL databases and SSRS, or a willingness to learn

OTHER JOB RELATED INFORMATION

- The appointment will be subject to the satisfactory completion of medical assessment(s) in accordance with various mining and statutory legislations
- All personnel will be subjected to random alcohol and drug screening when on mine sites
- Safety inductions and training will be mandatory in accordance with relevant site requirements
- A valid Australian Driver’s License is required
- Training on MTI products and services for 6-12 months. On completion of training, to be located in Brisbane
- Travel to remote sites, both interstate and overseas, on short notice to carry out site visits will be required, from time to time
- Shift work and out of hours work may be required (including evenings, weekends and public holidays)
- During peak periods of work, the taking of leave may be restricted
Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.