



Tyres and Rims – Project 3

Stakeholder Management Plan

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Related EMESRT initiatives and documentation

- Vehicle Interaction – Project 1
- Human Factors Design for Diversity – Project 2
- Tyres and Rims Management – Project 3
- Equipment Fires Stakeholder Management Plan
- Equipment Fires Project 4 Scope
- Design Philosophy 2 – Tyres and Rims

Acronyms

DP	Design Philosophies
DP-2	Design Philosophy 2 – Tyres and rims
EAG	EMESRT Advisory Group
EMESRT	Earth Moving Equipment Safety Round Table
SMP	Stakeholder Management Plan
WG	Working Group

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1. BACKGROUND

In 2007, EMESRT published Design Philosophy 2 (DP-2) focusing on Tyres and Rims. The aim of the DP was to provide information to assist OEMs in designing equipment to reduce the risk of potential unwanted tyre and rim events. This project is an extension of the original work carried out by EMESRT and the industry in developing DP-2. However, the industry acknowledges that tyre and rim maintenance activities on heavy earthmoving equipment can expose people involved in performing these types of tasks to an unacceptable level of risk with serious injury or fatality as a consequence.

Statistics indicate people from all sectors of the mining industry globally and here in Australia continue to suffer serious injury or death from unexpected incidents when maintaining large earthmoving tyre assemblies, mostly involving stored energy or crush type scenarios, i.e. sudden release of energy from inflated wheel assemblies as a result of incorrectly fitted rim components, tyre explosions/fires resulting from excessive heat build-up and crush injuries when working in or around tyre handling equipment.

These incidents are preventable and in the absence of fully automated robotics taking the people out of the line of fire, the industry must develop and implement new design standards for large tyre and rim handling equipment that reduce human error, implement best practice tyre management procedures and develop recognised skill competencies for people involved in maintaining and supervising tyre related maintenance tasks.

In early 2019, and in response to the concerns raised, EMESRT reached out to key stakeholders and started the conversation. This resulted in the formation of an EMESRT tyres and rims working group. The primary focus of the group was to review and link industry work to date on tyres and rims and prepare a relevant control framework (CFw) document resulting in the development of an industry self-assessment tool and guidance notes that end users can use to determine if they are meeting the controls needed to be in place to mitigate a tyre and rim related unwanted event. This group is focussing on delivering three major outcomes:

1. Highly specified fit for purpose tyre handling equipment and maintenance tooling that reduce the risk of human error
2. Recognized competency-based training modules for tyre maintainers and supervisors
3. Clear and concise Tyre and Rim maintenance work instructions / procedures for tyre maintainers

2. INTRODUCTION

BACKGROUND - EMESRT BASELINE CONTROL FRAMEWORK (CFw) FOR TYRES AND RIMS

In two workshops in 2019, EMESRT invited experienced mining industry personnel to contribute to the development of a Control Framework for Tyres and Rims in Mining.

At the workshops, more than 23 people representing 14 entities and consultancy supported by two expert facilitators worked for two days to review, amend and validate a CFw ver1 Baseline for Tyres and Rims.

The contributing entities to this work were

- | | | |
|-------------------|---------------|-----------------|
| 1. Alcoa | 6. DNRME | 11. Risk Mentor |
| 2. Anglo American | 7. Glencore | 12. SIMTARS |
| 3. BHP Billiton | 8. Otraco | 13. South32 |
| 4. Bluefield AMS | 9. Peabody | 14. Thiess |
| 5. CAT | 10. Rio Tinto | |

A draft CFw was prepared prior to the first workshop and included relevant information from industry sources regarding preventing and mitigating tyres and rims related un-planned events:

- EMESRT Design Philosophy 2 – Tyres and Rims

- Regulator information from multiple jurisdictions - incident reports, bulletins, publications analysis, and position papers, etc.
- Operating site, company and industry documents
- Research and technical information e.g. incident taxonomies
- Relevant Standards and Guidelines

Working from this draft the workshop participants reviewed, amended and validated the CFw content working iteratively through this cycle multiple times over two days:

1. Review the **Required Operating States (ROS)**
2. For each ROS identify the **Credible Failure Modes (CFM)**, amend as required, support with real world scenarios, cross check against incident experience
3. Use control sheets to identify the **Business Inputs** that prevent or mitigate the CFM from compromising the ROS.
 - a. For each business input capture how it is *specified, implemented and monitored*
 - b. Add industry level detail based on participant knowledge and experience
4. Continually update the CFw for Mobile Tyres and Rims
5. This content was again reviewed during a one-day workshop in July and EMESRT coordinated industry level projects commenced

At the conclusion of the workshop it was decided to:

- Summaries relevant credible failure modes specific to problem statement and map functional requirements back to the “Control Framework (CFw)”
- Establish a stakeholder and industry participants list and plan for project
- Engage industry stakeholders
- Define participants meeting and workshop schedule requirements
- Establish a project schedule with defined tasks, accountabilities and time frames. Use output from industry workshop as per activities on Trello project management system
- Define how to measure success and know when EMESRT’s work is complete, i.e. “End Point”
- Develop specification for a fit for purpose tyre handler inclusive of systems that reduce the possibility of human error
- Engage tyre handler providers and rim manufacturers re: improved specification and “Fail Safe” design opportunities
- Develop recognised skill competencies for tyre and rim maintainers and supervisors

3. PURPOSE

The purpose of this Stakeholder Management Plan is to record the requirements and processes for ongoing communications throughout the *EMESRT Tyres and Rims Project 3* lifecycle. The Plan provides all members of the *Working Group* with a robust structure to ensure all stakeholders are kept informed regularly and effectively resulting in a positive contribution to the project.

4. SCOPE

The scope for the **Working Group** includes:

1. Attending workshops for the purpose of sharing information
2. Reporting on initiative progress

3. Working collaboratively all stakeholders
4. Collaborate on and form an industry position on tyre and rim problems that need to be resolved
5. Working as team members or initiative leaders to contribute, support, lead the discovery, articulation and presentation of the problems for resolution

The scope for **EMESRT** includes:

1. Provide initiative leadership through Project Lead and support through secretariat
2. Engage expert consultant(s) for strategic activities related to the initiative
3. Facilitating, participating, and guiding collaborative workshops
4. Influence the course for change in not only the design and installation consistencies but in developing guidelines or a check list of sorts that suppliers can use to determine if they are meeting/satisfying end user needs/requirements
5. Monitoring initiative progress
6. Communicate with ISO, SAE, ICMM, other Associations and Standards organisations and facilitate the path to a successful open architecture protocol
7. Compile and disseminate all materials related to the initiative
8. Post all final documentation into the Trello Library

5. STAKEHOLDER MANAGEMENT

Stakeholder Management includes the processes required to identify the people, groups and entities that could affect or be affected by the project, analyse stakeholder expectations and their impact on the project, and to develop appropriate strategies and tactics for effectively engaging stakeholders in a manner appropriate to the stakeholders' interest and involvement in the project.

The plan is also designed to:

- Support the delivery of the EMESRT Tyres and Rims Project 3
- Identify all relevant stakeholders
- Develop approaches to inform stakeholders
- Increase support and buy-in for the development of the self-review assessment tool and guidance notes (user guide)
- Confirm required stakeholder management activities and plan for their delivery through the use of the agile project management platform Trello
- Confirm project plan progress measures and milestones
- Ensure that each project step is successful

5.1 Stakeholder register

A stakeholder register is maintained by the EMESRT Coordinator. Stakeholders are grouped into EMESRT focus areas, e.g. Vehicle Interaction, Human Factors Design for Diversity, Equipment Fires and in this instance Tyres and Rims.

A stakeholder can request to be removed from the register at any time, and will no longer receive communications from EMESRT unless the stakeholder notifies otherwise. The register is not shared outside of EMESRT. The registers contains the stakeholder name, entity, focus area, and email address.

5.2 Levels of engagement

The Tyres and Rims Working Group will be engaged for the duration of the project. The project lead will ensure that all working group members have the right information at the right time. The project lead will notify the

working group if any issue arise that will impact the project and discuss options. Tyres and rims stakeholders fall into one of the following four engagement categories:

Table 1: Stakeholder categories and level of engagement.

1	Partner	Partnerships Regular updates Plus 2, 3 and 4
2	Involve	Workshops Forums Participatory decision-making process Plus 3 and 4
3	Converse	Workshops One-on-one discussions Face to face meetings Plus 4
4	Inform	Webinar minutes Annual Report Website news and events LinkedIn

5.3 Key stakeholders

Key stakeholders listed in Table 3 were identified during the workshop held on the 30 and 31 July 2019. Each stakeholder is categorised into the below 5 categories:

Table 2. Stakeholder categories and level of influence 1-5 with 5 being the lowest.

1	Leading	Are actively engaged in EMESRTs activities and are willing to assist to help EMESRT succeed, e.g. Involved in teleconferences, workshop, projects, leads activities, supports all aspects of EMESRTs vision
2	Supportive	Are supportive of EMESRT and wish it to succeed, e.g. Participates in teleconferences, workshops, positive about EMESRTs vision, etc
3	Neutral	Are aware of EMESRT but have no opinion regarding their support for it, e.g. EMESRT has no impact on stakeholders in this category, fence sitter
4	Resistant	Are aware of EMESRT but not in support of it due to their own activities, e.g. Knows of EMESRT but is resistant to engage
5	Unaware	Are not aware of the EMESRT or its work nor the potential impacts on them, e.g. Works in industry but unaware of EMESRT

Table 3. Stakeholder list identified during the workshop including categories and level of influence.

STAKEHOLDER NAME	LEVEL OF ENGAGEMENT (see Table 1 above)	LEVEL OF INFLUENCE (See Table 2 above)	TOTAL SCORE
Accreditation Entities	5	5	
Alternative Technology Vendors		5	
AusIMM		3	
Australian Coal Association Research Program	2	2	
Automation entities	2	5	
Commissioner for Mines	2		
Coal Mining Safety and Health Advisory Committee (Qld)			
EMESRT Advisory Group	1	1	

EMESRT Member Companies	2	2	
Engineers Australia		3	
Expert consultants		3	
ICMM		2	
Industry specialist tyre service providers			
Institute of Quarrying			
International Standards Organisation		2	
Maintenance Contractors			
Minerals Council of Australia	2	2	
Mining and resource associations			
MISHC		2	
Mining Safety and Health Advisory Committee (Qld)			
OEM – Asset, tyres, rims, speciality equipment			
OEM companies	5	2	
Ombudsman	5		
Recyclers			
Regulators by region, country and state			
Research bodies	5	2	
Robotics companies			
Standards Australia	2	2	
Training service providers			
Tyre service providers and contractors			
Tyre suppliers			
Vision systems (AI)			

6. ENGAGEMENT METHODS

The project lead will take the lead role in ensuring effective engagement methods are applied to this project and will discuss possible key messages and timing with the working group relevant to stakeholders and the wider EMESRT community and identify a suitable communication channel, e.g. LinkedIn, website news, media release and email.

Table 4: The table below indicates the planned communication schedule.

COMMUNICATION TYPE	FREQUENCY	FORMAT	TARGET AUDIENCE	OWNER
Progress report	Monthly	Teleconference	Working group	Project lead
Trello project board	On a regular basis	Online	Working group	Project lead/support resource
Project update	As required	Online media	Key stakeholders	Support resource
Project update	Annually	Annual report	Wider community	Support resource
Workshop	As required	Face to face	Working group	Project lead/support resource
Face to face (both formal and informal)	As required		Working group, key stakeholders	Project lead/support resource