Singapore Healthcare Management 2016

Additional Medical Air Emergency Supply Manifold

KK Women's and Children's Hospital
SingHealth

KKH Facilities Management
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INTRODUCTION

Issues/problems:

- The Emergency Supply Manifold (ESM) for Medical Air was not able to maintain system pressure required by new BME high flow ventilators at NICU when activated due to interruption of the Main Medical Air Compressors.

Goals & Objectives:

- To maintain Medical Air system pressure required by new equipment e.g Ventilators in ICUs, MOT and Critical areas in KKH during emergency.
- To ensure that ESM can meet new flow requirement for new equipment.
- To improve overall system performance and availability to ensure that the system is functioning at the optimal level.

METHODOLOGY

Site Investigation:

- Carried out immediate site investigation following the pressure dip incident.
- Nursing, Medical, BME & FM conducted Root Cause Analysis of the incident.
- Found Medical Air Back-up Supply was not able to maintain system pressure due to high flow requirements from new ventilators at NICU.

Conduct System Feasibility Study:

- Discussed with vendor on pressure dip conditions.
- Review on system piping design and derive solution for mitigation.
- Proposed additional new Medical Air Manifold System at Level 2 near to all critical areas including ICUs, MOTs & Delivery Suite to mitigate pressure dip during emergency situation.

Conduct Enterprise Risk Management (ERM):

- Conducted ERM to identify the risks and defined effective control measures to mitigate the risks.
- Relevant departments (NICU, SCN & Delivery Suite, etc.) formulated workflow in response to Medical Air, Oxygen & Vacuum disruptions.

CONCLUSION

- ✓ Hospital operation efficiency enhanced by zero system down time for ventilators.
- ✓ Patient care & safety is enhanced by increasing readiness for emergency response .

New L2 ESM

RESULT

100 % EFFECTIVE!!

No Dip In System Pressure experienced By New Medical Equipment.