The Doherty Institute. Facility Design and Construction for the Transition from Project to Operation and Maintenance

To achieve outstanding success delivering large complex operational highly maintained facilities, requires consideration of operational and maintenance aspects during all aspects of the project from conception. This needs to be one of the prime focuses of the project team - not an “afterthought” arising at the end when handover is imminent or has occurred.

In the past buildings were often completed and passed to maintenance teams with minimal documentation, advice or assistance and little or no input from stakeholders on their requirements. These emerge as a surprise later, after occupation of the facility.

More recently stakeholders and prospective building maintainers were typically consulted during early design development, but not again until the building was complete, with the manuals on *this CD* and the users in the process of relocation.

Maintenance staff needed to rapidly learn the building systems and all aspects of building operations while maintaining the facility and supporting ongoing activities. Challenges included differences in new systems from previous systems due to technological or practical advances and changed user requirements. This was exacerbated for more complex facilities, like the Doherty. These “learning periods” have the potential to compromise building system integrity - potentially rendering laboratories uncertifiable or, if certified, in breach of current regulations. Lack of understanding of systems makes changes in requirements difficult or impossible to achieve in a timely manner and can cause onerous workarounds or “rectification” to systems already capable of doing the required task.

To ensure that the Institute would be as functional as possible at all times from occupation, a different approach was required. A process was developed that includes involvement of building operational personnel in the design, abandoning the concept that construction is separate from operation and maintenance of the facility.

The approach developed for the Doherty provides involvement of building operations personnel throughout the process; including all aspects of design and construction ensuring that at handover there was sufficient knowledge to operate and maintain the facility.

To progress this concept, operational personnel including assets and security were encouraged to input into preliminary discussions, design development and construction. After construction commenced but well before the installation of any of the building plant or systems, a Building Operations Manager was appointed to the Project Team - in concert with senior maintenance personnel - to work with the project team during the delivery and then transition to the Assets Team as the onsite manager on completion. The concept is to build the support team with the facility. While this may be useful for all facilities, this methodology is particularly suitable for the construction of complex, large scale facilities with complex systems and/or certification requirements.

This methodology was introduced and proved to be effective for the delivery of the Doherty, a leading edge medical research facility constructed for the University of Melbourne and Melbourne Health. This methodology included integrated briefings of asset and security personnel and their input into; regular meetings and reviews; value management; documentation and tendering; meetings, updates and general and targeted inspections of the site throughout construction; and consultation on communications, relocation and operational planning.

A byproduct is the practical aspect of change management. This regular interaction allowed Building Operations personnel to understand and mentally prepare for their role in supporting operations of the new facility, easing the transition and providing the potential for the facility to fulfill its planned function earlier with less stress and reduced down time.

A cornerstone of this approach is the selection, formation and maintenance of the expanded project team while maintaining clear authorities and communication during project and transitional processes. Benefits include; improved integration of functions; enhanced design solutions; appropriate service provision and the potential to make the facility useable earlier and more flexible in operation because operational personnel have a full knowledge of built systems, their capabilities and how to manage and change them when necessary.

Planning in advance for the handover of any large, technically complex facilities is the key. Review and incorporation of appropriate systems, policies, procedures and personnel means that the facility can be operated and maintained correctly from occupancy. This also ensures that the OHS and other risks associated with the facility are understood and managed and users can be confident in the building and its facilities support structure.

The success of this approach makes it a point of difference that is being incorporated into a number of other major medical/medical research projects in Australia and overseas.

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