## Generic Risk Assessment for use of: Tower Scaffolds (FMRA 0004) July 2017

For a tower scaffold to be used safely and in accordance with Estates Facilities’ policy the ‘Controls’ below **must** be applied by employees:

Estates Facilities only allows use of standard towers and scaffolds (as described in recognised guidance e.g. National Access and Scaffolding Confederation (NASC) Technical Guidance TG20:08 for tube and fitting scaffolds, or manufacturers' guidance for system scaffolds), the scaffold***must*** be designed by calculation, by a competent person. This will ensure adequate strength and stability.

Scaffolds that are not ‘basic’ require specific risk assessment; the design information must describe the sequence and methods to be adopted when erecting, dismantling and altering the scaffold, (unless this is covered by NASC guidance document SG4:10 - ‘Preventing Falls in Scaffolding’, or the manufacturers' erection guide for system scaffolds).

Employees ***must not*** use tower scaffolds unless:

* they have attended the College’s tower Scaffold course at a minimum
* or they are otherwise sufficiently trained and experienced and
* are fit to undertake the tasks required of them.

**Never** use a tower:

* in strong winds;
* as a support for ladders, trestles or other access equipment;
* with broken, damaged or missing parts; or
* with incompatible components.

Managers/Supervisors ***must*** ensure there is a suitable level of supervision to ensure safe systems of work are specified, appropriate and being used throughout the work procedure. All scaffolding inspection ***must***be carried out by a competent person whose combination of knowledge, training and experience is appropriate for the type and complexity of the scaffold he/she is inspecting. Competence may have been assessed under the Construction Industry Scaffolders Registration Scheme (CISRS), or an individual may be suitably experienced in scaffolding work and have received additional training under a recognised manufacturer/supplier scheme for the specific configuration he/she is inspecting.

Supervisors should look beyond scaffold training and ***not*** overlook the requirement for scaffold workers to also have the required task-specific training and equipment.

**Additionally, staff *must* comply with Estates Facilities’** [**permit-to-work system**](http://www.imperial.ac.uk/estates-facilities/contractors/permit-to-work/)**. Managers/Supervisors *must* also ensure they have a system for recording and responding promptly to scaffold/tower defects**.

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| Hazard | **Persons at Risk** | **Existing Controls** | **Action Needed** |
| Dangerous methods of erection or dismantling | Workforce/Pedestrians | All scaffolding is to be erected, dismantled and altered in accordance with either NASC guidance document SG4 for tube and fitting scaffolds or the manufacturer’s erection guide for system scaffolds. Towers will be erected following a safe method of work, either using:  **Advance guard rail system** – where temporary guard rail units are locked in place from the level below and moved up to the platform level. They are in place before the operator accesses the platform to fit the permanent guard rails.  **‘Through-the-trap’ (3T)** – involves the operator taking up a working position in the trap door of the platform, from where they can add or remove the components which act as the guard rails on the level above the platform. It is designed to ensure that the operator does not stand on an unguarded platform.  College training covers both the above methods of work. | As a minimum requirement, every scaffold work team must contain an appropriately qualified scaffold supervisor for the type and complexity of the scaffold to be erected, altered or dismantled. See competency requirements above.  NB The UK scaffolding industry now must conform to the European Standard BS EN12811-1:2003. (The earlier British Standard BS 5973:1993 has been withdrawn and the Health and Safety Executive will no longer acknowledge BS5973:1993 as a recognised standard for the design of tube and fitting scaffolding structures.)  However, BS EN12811-1 is a performance document and does not give detailed advice on safe systems of work for erecting, altering or dismantling scaffolds when erected using tubes and fittings. To overcome this, the NASC produced TG20:08 - Technical Guidance on the use of BS EN12811-1, which has been published as a guide to good practice for scaffolding with tubes and fittings and this is to be followed. |
| Hazard | **Persons at Risk** | **Existing Controls** | **Action Needed** |
| Scaffold modification | Workers | Any proposed modifications or alterations outside a generally recognised standard configuration must be designed or approved in advance by a competent person. | Handover certificates must refer to relevant drawings, permitted working platform loadings and any specific restrictions on use. |
| Unauthorised access | Members of the public/Workers | To prevent use by unauthorised persons of complete or incomplete scaffolds, relevant warning signs identifying the areas where access is not permitted should be displayed at the access points to these areas. In addition, access should be prevented by suitable physical means and the use of scaffold alarms.  When towers are used in public places, extra precautions are required:   * erect barriers at ground level to prevent people from walking into the tower or work area; * minimise the storage of materials and equipment on the working platform; * remove or securely board-over access ladders to prevent unauthorised access if it is to remain in position unattended | There must be an authorised, safe way to get to and from the work platform. This must be on the inside of the tower by an appropriately designed built-in ladder.  It is not safe to climb up the rungs on the end frames unless the rungs have been specifically designed for the purpose of getting to and from the working platform – these have rung spacings of between 230 and 300 mm and an anti-slip surface. If you are in doubt, consult the instruction manual. |

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| Hazard | Persons at Risk | Existing Controls | Action Needed |
| Failure to inspect tower scaffold | Members of the public/Workers | All towers must be inspected by a trained and competent scaffold supervisor following assembly, and also at suitable regular intervals. In addition, if the tower is used for construction work and a person could fall 2 metres or more from the working platform, then it must be inspected following assembly and then every 7 days. The College require the use of its ‘Scafftag’ visible tag system (which is to be updated each time a check is carried out) to supplement inspection records. | Stop work if the inspection shows it is not safe to continue, and put right any faults. The result of an inspection should be recorded and kept until the next inspection is recorded. |
| Defects in the erected scaffold e.g. where the tower structure is incorrectly assembled or where a platform guardrail is missing | Members of the public/Workers | Towers rely on all parts being in place to provide adequate strength. The manufacturer, supplier or hirer has a duty to provide an instruction manual explaining the erection sequence, including any bracing requirements. These instructions are to be followed. Always install stabilisers or outriggers when advised to do so in the instruction manual. |  |
| Tower relocation | Workforce | When moving a tower you should **always**:   * reduce the height to a maximum of 4m; * temporarily raise outriggers; * check that there are no power lines or other obstructions overhead; * check that the ground is firm, level and free from potholes and obstacles; and * push or pull using *manual* effort from the *base* only.   **Never** move a tower while people or materials are on the tower, or in windy conditions. | A new inspection and report is not required every time a mobile access tower is moved to a new location on the same site. However, if guard rails or other components have to be removed to enable the tower to be moved past an obstruction, then a pre-use check should be undertaken by a trained and competent user to make sure the tower has been reinstated correctly. |
| Hazard | **Persons at Risk** | **Existing Controls** | **Action Needed** |
| Scaffold quality | Workforce | Prior to use check for damage, excessive wear, distortion, oxidation and corrosion. Scaffold must be free from oil, mud, cement (slip hazards and corrosion). Lockable castors must be in good condition and braked. | The scaffold inspection report should note any defects and corrective actions taken, even when those actions are taken promptly as this assists with the identification of any recurring problems. |
| Uneven, slippery, sloping or soft ground, excavations – scaffold collapse | Workforce | Do not use steps on uneven, slippery, sloping or soft ground. The ground may have to be levelled and compacted in advance.  To maintain tower stability you must make sure:   * the tower is resting on firm, level ground with the locked castors or base plates properly supported. Never use bricks or building blocks to take the weight of any part of the tower; * stabilisers or outriggers are installed when required and always follow the instruction manual; and * that a tower is never erected to a height above that recommended by the manufacturer. |  |
| Tower struck by vehicle | Workforce/Pedestrians | Exclude other vehicles, mobile plant/work equipment from the works vicinity for the duration of the work. |  |

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| Hazard | **Persons at Risk** | **Existing Controls** | **Action Needed** |
| Overloading | Workforce | Do not exceed the specified loading rating of the scaffold. Add workers’ weights, plus their tools plus the weight of materials to calculate safe tower loading. | Is the maximum loading weight understood by workforce? Even spread of load s assists tower stability. |
| Poor lighting | Workforce | Do not carry out work operations in poorly lit areas. Ensure staff know when further operation would be unsafe. | Provide additional lighting – extension leads, torches if required etc. |
| Falling objects | Workforce/Pedestrians | Ensure the scaffold is provided with guard rails and toe boards or other suitable barriers. Cordon off the working area if necessary. Toe boards must be fitted and at least 150mm high. | Be particularly mindful of the ‘sail’ effect which large work materials can produce e.g. plywood, glazing. This sail effect can be extremely hazardous even in light winds blowing material and persons off towers.  Good housekeeping prior to and throughout the work is very important. |
| Lack of Personal/Collective Protection/Slipping | Workforce | Wear appropriate Personal Protective Equipment (PPE) and sturdy footwear. Use fall restraint and fall arrest systems if specified. | None. |
| Over-reaching | Workforce | Do not over-reach. Work only within safe reaching distance. |  |

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| Hazard | **Persons at Risk** | **Existing Controls** | **Action Needed** |
| Misuse of the scaffold | Workforce/Pedestrians | The stability of any tower is easily affected. Activities such as those listed below should never be carried out unless the tower has been specifically designed for such use:   * sheeting or exposure to strong winds; * loading with heavy equipment; or * using the tower to hoist loads or support rubbish chutes * as a support for ladders, trestles or other access equipment. |  |
| Electrical Hazards | Workforce | Avoid electrical hazards. | Turn off and securely isolate power. |
| Height | Workforce | Wear a harness with a fall restraint lanyard attached to the platform. Always check the safe working height by referring to the instruction manual. Towers should never be erected to heights above those recommended by the manufacturer. Falls must be prevented where there is a risk that a fall could result in personal injury. The working platform must be provided with suitable edge protection and toe boards. Guard rails on three sides should be at least 950 mm high and an intermediate guard rail should be provided so the unprotected gap does not exceed 470 mm. Toe boards must be fitted and at least 150mm high. If stabilisers/outriggers are in use they must be correctly fitted and positioned. | **Maximum heights for use of tower scaffolds:**  8m outdoors  12m indoors  N.B. follow manufacturer’s guidance if it specifies **a lower maximum.**  **Maximum height to base ratios:**  3:1 outdoors  3.5:1 indoors |

I have read and understood the above risk assessment and received appropriate relevant training:

Employee’s Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Employee’s Name (print): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Risk Assessment Signed Off by: Steve Hughes Date: July 2017. Next review date: July 2018.