METHOD STATEMENT FOR DRILL AND BLAST OPERATIONS

Project No:	

REVISION HISTORY	ISSUE DATE	DESCRIPTION	REVIEW / STATUS
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PREPARED BY:	**REVIEWED & APPROVED BY:**
QA QC ENGINEER	PROJECT ENGINEER

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1.0. PURPOSE

The purpose of this technical methodology document and practice is regarding the requirements for drilling and blasting operations.

2.0. SCOPE

This this technical methodology document includes the following major sections:

2.1. General Requirements
2.2. Drilling
2.3. Blasting
2.4. Fibrous Materials

3.0. APPLICATION

This this technical methodology document and practice applies to work activities and employees under the control of Fluor and its contractors.

4.0. DEFINITIONS

4.1. As per your document's scope of work.

5.0. GENERAL REQUIREMENTS

5.1. A "work authorization" or permit process – such as Permit to Work – is required for blasting operations.
5.2. The manufacturer's instructions for all equipment and materials used in drill/blast operations must be followed.
5.3. A job safety analysis must be developed for all blast operations.
5.4. All blast hole drilling will be "wet" drilling.

6.0. DRILLING

Contractors employed to provide drilling services must have their drilling plan reviewed and approved before mobilization to a site.

Qualifications of all workers must be documented and provided to the project before mobilization to the site. The following areas, as a minimum, must be addressed, and control measures implemented:

6.1. Drill rigs are to have pre-mobilization inspection and certification before arriving on site.
6.2. Drill rigs must be cleaned of all soil and vegetation to prevent the spread of weeds.
6.3. Rigs must be appropriate for the task.

6.4. Drill rigs and compressors must be set up on even ground and stabilized. Certificates of inspection are required for air receivers, and copies supplied to the site engineer before mobilization to the site.

6.5. Drilling precautions are carried out as detailed in applicable standards.

6.6. Rotating equipment hazards to be accounted for and controlled to an acceptable level.

6.7. Dust suppression techniques to be employed while drilling, and appropriate PPE to be worn as required, including dust masks.

6.8. Housekeeping of equipment, oils, and water – an appropriate laydown area to be constructed, with proper storage (including bunds for oil) for the relevant materials. Spill kits and containment methods must be provided.

6.9. Proper manual handling techniques to be used.

6.10. Fall protection – refer to Practice Fall Protection.

6.11. Voltage regulating devices (VRD) to be used with manual arc welding machines and other applicable electrical equipment.

6.12. Approved sock-type whip checks to be used on all high-pressure hose connections.

6.13. Drilling air and diamond procedures detailed as required.

6.14. Wet drilling procedures detailed as required.

6.15. Machinery fires, counter measures, and reporting process detailed.

6.16. Hearing protection to be worn if compressor noise exceeds 85dB (A).

7.0. BLASTING

7.1. General

7.1.1. Demolition by blasting will require specific written permission from the client.

7.1.2. Blasting must be conducted by certified blasters in compliance with applicable standards.

7.2. Permits

7.2.1. If the permit to work process is in place, a Permit to Work must be issued.

7.2.2. The appointment and training of Blasting Authorized Permit Issuers is similar to permit to Work and Confined Space Entry Permit Authorized Permit Issuers (refer to Practice). However, in addition they will have sound and thorough knowledge in matters relating to the preparation and conduct of work involving blasting. Practical experience in preparing blasting permits under guidance will be an integral part of training. Appointment is made in writing on Form (xxxxxxx), Authorized Permit Issuers, by the Project Manager.

Note: When performing blasting in/around an operating facility, it is a common requirement to use the facility “permit process” instead of the process described above.

7.3. Process

7.3.1. Contractors employed to provide blasting services must verify that any magazine in which more than 555 pounds (249.7 kilograms) of explosive or blasting agent is stored,

has been constructed in accordance with applicable standards, and is licensed by the statutory authority.

The blasting contractor will verify that:

7.3.2. A person is appointed to record all explosives and blasting agents that are taken in and out of the magazine using Form, Record of Explosives and Detonators Issued, or equal.

7.3.3. The magazine is adequately secured and is kept tidy.

7.3.4. The keys to the magazine are kept in the person's possession.

7.3.5. Explosives and blasting agents in the magazine are safely stored.

7.3.6. Adequate grounding is installed on the magazine.

In addition, the contractor will verify that all blasting is conducted according to applicable standards, such as 29 Code of Federal Regulations (CFR) 1926, Subpart U. Specifically, the contractor's blasting plan will cover the following:

7.3.7. Users of explosives and blasting agents are qualified and experienced in accordance with the relevant licensing authority.

7.3.8. The handling and transport of explosives and blasting agents provide adequate safety for that purpose.

7.3.9. Separate containers are provided for transporting explosives, blasting agents, fuses, and detonating accessories.

7.3.10. License conditions and mine register conditions are met.

7.3.11. Safe work practices are provided for fly rock control, stemming, restricted areas, radio, misfires, clearance signals, blast guards, etc.

7.3.12. Dust mitigation and control methods are employed.

7.3.13. Blast permits (notification period).

7.3.14. Blast notification to national or local aviation authority.

7.3.15. Proper warnings have been given to all adjacent areas from which any person might approach and be at risk from the explosion.

7.3.16. All persons who are in places where they might be injured by the blasting have been warned of the intended blasting.

7.3.17. All means of entry to the place of blasting are securely guarded against entry by any person, or firing warning notices are erected if necessary to prevent entry.

7.3.18. Employee qualifications and competency (license).

7.3.19. Magazine location and storage requirements are met.

7.3.20. Dangerous goods licensing (transport and storage) - including minor storage around site.

7.3.21. Initiation type (such as backup).

7.3.22. Non-initiation/misfire (no safety fuse).

7.3.23. Accountability inspection schedule for dangerous goods manifest.

8.0. FIBROUS MINERALS

Where asbestos is suspected, drilling will be carried out in accordance with Practice Form (xxxxxxx),, Excavating Fibrous Materials. A sample of any fibrous material discovered during drilling operations must be sent to an accredited laboratory for identification. Drilling may continue, but the area must be designated as being suspected of potential asbestos-containing material, and safe work practices for working in the designated area developed and followed.

Note: The JSA must be revised accordingly.

9.0. RESOURCES

9.1. Global Standards

9.1.1. Australian Government Safety and Compensation Council; List of National Codes of Practice

9.1.2. Safety and Compensation Council; List of National Standards

9.1.3. European Union European Agency for Safety and Health at Work

9.1.4. United Kingdom Construction Regulations 2007

9.1.5. Related Fluor University Courses

10.0. ATTACHMENTS

10.1.1. Permit to Work

10.1.2. Fall Protection

10.1.3. Excavating Fibrous Materials

10.1.4. Record of Explosives and Detonators Issued

10.1.5. Blasting and Operations

HEALTH
SAFETY
ENVIRONMENT