

For discussion
on 8 November 1999

**LEGCO PANEL ON
INFORMATION TECHNOLOGY AND BROADCASTING**

**PROPOSED NEW LEGISLATION TO REGULATE
THE USE OF PYROTECHNIC MATERIALS
AND OTHER DANGEROUS GOODS
IN FILM PRODUCTION, TELEVISION PROGRAMME
PRODUCTION AND THEATRICAL PERFORMANCE**

PURPOSE

This paper seeks Members' views on the proposed new legislation to govern the use of pyrotechnic materials and other dangerous goods for producing special effects scenes in films, television programmes and theatrical performances.

BACKGROUND

2. The use of fireworks (including pyrotechnic materials) in Hong Kong has been generally prohibited since 1967. This has resulted in the illegal use of pyrotechnics in film shooting locally for the purpose of producing special effects scenes. In view of the industry's genuine need to produce special effects scenes and to protect public safety, a regulatory system was introduced in March 1993 whereby the use of pyrotechnic materials is allowed in the production of special effects in films, television programmes and theatrical performances, subject to the issue of a permit under the Dangerous Goods Ordinance (Cap. 295) by the relevant authorities. The use of other dangerous goods (such as liquefied petroleum gas) in the production of entertainment special effects continues to be regulated by the Dangerous Goods Ordinance and the Gas Safety Ordinance (Cap. 51), as appropriate. An outline of the existing regulatory system is at the Annex.

3. The major shortcoming of the existing regulatory system is that the provisions of the Dangerous Goods Ordinance and the Gas Safety Ordinance are not designed to meet the operational needs of the entertainment industry. The industry thus encounters considerable difficulties in complying with these statutory requirements. These difficulties include -

- (a) the conveyance, storage, use and discharge of pyrotechnic materials and other dangerous goods are under the jurisdiction of five different departments. In the absence of a central licensing authority, the industry has to deal with different departments to obtain all the required approvals. This is time-consuming, inefficient and not user-friendly;
- (b) at present, a permit is required for each and every discharge of pyrotechnic materials. This means that multiple permits are required to cover rehearsals, re-shooting as well as serial discharge in the same scene. The industry has found such a requirement very onerous;
- (c) currently, a special effects operator has to register with the Commissioner of Mines for each discharge of pyrotechnic materials. This is a very cumbersome procedure. Moreover, in the absence of a licensing system for local special effects operators, a local person wishing to register with the Commissioner of Mines to discharge pyrotechnic materials must get trained under the supervision of special effects operators with overseas qualifications. This has severely limited the build up of a local pool of recognised expertise; and
- (d) the existing regime does not specifically regulate the combined use of pyrotechnic materials and other dangerous goods in producing special effects. Therefore, the concerned regulatory authorities tend to set fairly stringent permit conditions for the proposed discharge. This has led to illegal discharges by the film industry occasionally, thus putting the safety of the production crew and the public in jeopardy.

4. At the Panel meeting held on 14 September 1998, Members were briefed on the broad framework of the proposed new regulatory system to govern the use of dangerous goods in film production. Members were informed that a US consultant would be engaged to advise the Government on the essential parameters of the new regulatory system. The consultant has since recommended that the Government should prepare an Entertainment Special Effects Bill to provide an appropriate regulatory framework that would take into account the specific needs of the local entertainment industry as well as public safety concerns. The proposed regulatory framework that has subsequently been drawn up has taken into account the operational needs of the local entertainment industry and has drawn reference to the Californian regulatory regime which the film industry in Hollywood is subject to.

THE PROPOSED ENTERTAINMENT SPECIAL EFFECTS BILL

5. The proposed Entertainment Special Effects Bill will regulate the supply, conveyance, storage and discharge of pyrotechnic special effects materials and other special effects materials for the purpose of producing special effects. A new regulatory authority, to be called the Entertainment Special Effects Licensing Authority (the Authority), will be set up. The Authority shall be the Commissioner for Television and Entertainment Licensing (CTEL) who will be responsible for the following :

- (a) licensing of special effects operators;
- (b) issuing permits for the discharge of special effects materials¹;
- (c) registration of pyrotechnic special effects materials;
- (d) regulating the supply, conveyance and storage of pyrotechnic special effects materials;

¹ Special effects materials are dangerous goods which for the purpose of this Bill are classified as -

- pyrotechnic special effects materials which contain pyrotechnic and explosive substances; and
- other special effects materials which are dangerous goods other than pyrotechnic special effects materials, such as petrol and liquefied petroleum gas.

- (e) regulating the conveyance and storage of other special effects materials not exceeding certain prescribed quantities;
- (f) issue and/or approval of codes of practice; and
- (g) surveillance by means of inspections and checks to ensure compliance with the regulatory requirements.

Licensing of Special Effects Operators

6. To ensure that special effects materials for use in the production of special effects scenes for entertainment purposes will be discharged by qualified practitioners, we propose that only licensed special effects operators should be permitted to handle and discharge special effects materials. Two types of licences will be issued, namely Stream A licence for films and television programmes and Stream B licence for theatrical performances. For both licence streams, we propose that special effects operators should be graded by their level of competence. The Bill will specify the type of activities and materials which each grade of licensed operators is allowed to carry out or handle. There will be three different grades for Stream A licence (i.e. Special Effects Operators (SEO) Class I (Stream A), SEO Class II (Stream A) and Special Effects Assistant (SEA) (Stream A)), and two grades for Stream B licence (i.e. SEO (Stream B) and SEA (Stream B)). The professional competence of a special effects operator will be assessed by means of a written test and an interview, and where appropriate, a physical demonstration of the operator's knowledge and ability in producing special effects.

7. The basic eligibility criteria for the different grades of special effects operator licence are as follows :

- SEO Class I (Stream A) will normally require a minimum of two years of active work as an SEO Class II (Stream A) or equivalent;
- SEO Class II (Stream A) will normally require a minimum of two years of active work as an SEA (Stream A) or equivalent;

- SEA (Stream A) has to be of a minimum age of 18 years and has completed a basic training course approved by the Authority;
- SEO (Stream B) will normally require a minimum of two years of active work as an SEA (Stream B) or equivalent; and
- SEA (Stream B) has to be of a minimum age of 18 years and has completed a basic training course approved by the Authority.

An applicant for a special effects operator licence must be a fit and proper person, and be recommended by no less than two referees from within the industry who can attest to his experience and integrity. In addition, one of the referees must be a licensed special effects operator of the same stream and of a class either higher than or the same as that being applied for by the applicant. The duration of work experience for special effects operators (i.e. two years) may be reduced if the applicant has completed an approved training course or can demonstrate that he has acquired exceptional work experience.

Issue of Permits for the Discharge of Special Effects Materials

8. We propose that a permit is required for discharging any special effects materials for the purpose of producing special effects scenes in films, television programmes and theatrical performances. The applicant will be required to take out a policy of public liability and property damage insurance. The holder of a discharge permit and the licensed special effects operator appointed to produce the special effects are required to comply with the permit conditions and any relevant codes of practice which may be issued by the Authority from time to time under the proposed Entertainment Special Effects Bill.

9. The Authority will be the central body responsible for granting all discharge permits regardless of the type and quantity of materials used. We propose that a single discharge permit may be used to cover multiple discharges at the same location for a designated period of time. The processing of permit applications will be streamlined. Simple and straightforward applications (involving, for instance, simple gun fights or small explosion scenes) will be processed within three working days and

applications involving more complicated special effects scenes (for instance, large-scale special effects scenes, medium explosion scenes or where on site inspection is required) within six working days. More complicated applications may take up to 12 working days to allow time for consultation with other departments.

Registration of Pyrotechnic Special Effects Materials

10. At present, there is an internationally accepted system of classification and packaging methods for all dangerous goods based on the United Nations Recommendations on the Transport of Dangerous Goods and the International Maritime Dangerous Goods Code, which set out the safety requirements for land and sea transport respectively. The system prescribes packaging methods and classifies dangerous goods to ensure safety during conveyance, handling and stowage. Many countries, including the United Kingdom and Canada, have already introduced a system whereby the relevant competent authority may grant authorisation for the use of pyrotechnic materials after careful consideration of the performance parameters of such materials.

11. To protect the safety of the operators, the production crew and the general public, we propose that prior registration of pyrotechnic special effects materials with the Authority should be introduced and made mandatory before such materials are allowed to be used in Hong Kong for producing special effects. Detailed information (including specification, chemical composition, percentage by weight of each constituent of the pyrotechnic special effects materials, and where appropriate, the classification and authorization documents issued by a recognized authority) will be required for registration and classification purpose. The Authority will administer and maintain a register of the supplier, item description, classification, authorisation and restrictions of all pyrotechnic special effects materials for use in Hong Kong.

12. The register of pyrotechnic special effects materials will facilitate the sourcing by local suppliers and special effects operators of pyrotechnic special effects materials from overseas suppliers/manufacturers or other local suppliers. It will obviate the need for special effects operators to demonstrate

to the Authority in respect of each application for a discharge permit that the pyrotechnic special effects materials to be used for producing a particular special effects scene can be safely discharged. As the great majority of pyrotechnic special effects materials commonly used by the local entertainment industry will be included in the register at the outset, a special effects operator will only need to register pyrotechnic special effects materials if he wishes to use a pyrotechnic special effects material not listed in the register.

Supply of Pyrotechnic Special Effects Materials

13. To meet the operational needs of the entertainment industry, the new regulatory regime will permit the use of pyrotechnic special effects materials of a higher hazard level (such as detonators, detonating cords and shaped charges) subject to certain safeguards. To ensure proper control over the import and supply of such materials, we propose that suppliers of pyrotechnic special effects materials should take out a licence. Licensed suppliers will be allowed to supply, sell or transfer pyrotechnic special effects materials to other licensed suppliers, licensed special effects operators or persons who have been authorized by the Authority to discharge such materials. A licensed supplier will be required to keep a register of transactions for at least three years for inspection by the Authority.

14. A licensed special effects operator will not be required to obtain a supplier licence if he imports, for his sole use, the type of pyrotechnic special effects materials which he is allowed to discharge for producing entertainment special effects. However, to maintain proper control over the amount and types of pyrotechnic special effects materials which may be imported by licensed special effects operators, we propose to continue with the existing requirement whereby a removal permit has to be obtained prior to the importation of such materials for the conveyance of these materials from the point of entry to a licensed store.

Storage of Pyrotechnic Special Effects Materials

15. We propose that pyrotechnic special effects materials should be stored in a licensed pyrotechnic special effects materials store. The types and maximum quantity of pyrotechnic special effects materials allowed to be stored will be governed by the licence conditions attached to the pyrotechnic special effects materials store licence issued by the Authority. More stringent safety, security and capacity requirements will be imposed for more hazardous pyrotechnic special effects materials (such as detonators, detonating cords and shaped charges).

16. Under the proposed regulatory system, there will be two types of pyrotechnic special effects materials store licence, namely a fixed store licence and a movable store licence. In general, special effects materials suppliers and individuals who need to store a large amount of pyrotechnic special effects materials are required to apply for a fixed store licence. An applicant for a fixed store licence must be a fit and proper person and employ a licensed special effects operator to manage the store. Such stores shall be located in safe and secure non-residential premises approved by the Authority. Licensed special effects operators only need to obtain movable store licences for storing and carrying small amounts of pyrotechnic special effects materials (including detonators, detonating cords and shaped charges) to the set or studio for filming purposes. When not in use, the movable store containing pyrotechnic special effects materials should be kept in a designated location in non-residential premises approved by the Authority.

Conveyance of Pyrotechnic Special Effects Materials

17. We propose that the conveyance of pyrotechnic special effects materials should be covered by a removal permit issued by the Authority. Only one permit is required for the conveyance of pyrotechnic special effects materials by land and by sea as well as conveyance of leftover materials to designated areas upon the completion of filming. To facilitate the day-to-day operations of licensed special effects operators, we propose that exemption from the removal permit requirements should be granted in cases where the quantities of pyrotechnic special effects materials to be conveyed do not exceed a certain level and that such conveyance is supervised by the appointed

licensed special effects operator stipulated on the discharge permit issued by the Authority. The existing requirement for conveyance of pyrotechnic special effects materials by sea will also be simplified. The conveyance of small quantities of such materials need not be carried by special dangerous goods vessels. For public safety and security purposes, the conveyance of more dangerous pyrotechnic special effects materials such as detonators, detonating cords and shaped charges, must at all times be supervised by a Special Effects Operator Class I (Stream A).

Conveyance and Storage of Other Special Effects Materials

18. We propose that the conveyance and storage of other special effects materials (such as petrol and liquefied petroleum gas) should be regulated by codes of practice to be issued by the Authority under the proposed Entertainment Special Effects Bill provided that the quantities to be conveyed or stored do not exceed the levels of exempted quantities for such goods as stipulated in the Dangerous Goods Ordinance or the Gas Safety Ordinance, as appropriate. We have consulted the existing special effects operators on the proposed arrangement. They are satisfied that the proposed arrangement will meet their daily operational needs. The Fire Services Department has also agreed to explore jointly with the operators the possibility of using mobile dangerous goods store licensed under the Dangerous Goods Ordinance to facilitate the operation of the trade if the amount of dangerous goods to be used by a licensed operator exceeds the exempted quantity.

Other Features

19. The proposed legislation will empower the Authority to issue codes of practice on technical standards and guidance for the conveyance, storage and use of pyrotechnic materials and other dangerous goods for the production of special effects in films, television programmes and theatrical performances. It will also provide for a mechanism to consider appeals against the decisions of the Authority in relation to the administration of the proposed Entertainment Special Effects Bill.

TRANSITIONAL ARRANGEMENTS FOR LOCAL SPECIAL EFFECTS OPERATORS

20. In anticipation of the introduction of the new licensing system for special effects operators, the Television and Entertainment Licensing Authority has engaged a First Class Special Effects Operator from Hollywood to conduct training courses for local operators in the entertainment industry and to draw up guidelines and standards for the use of special effects materials in the production of special effects. The training courses cover proper practices and procedures in the safe handling, preparation, conveyance, storage and discharge of special effects materials. Such practices and procedures will be promulgated as codes of practice under the proposed Entertainment Special Effects Bill. In addition, trainees are taught how to prepare detailed work records and documentation for the purpose of applying for the relevant licences and permits under the new regulatory system. So far, 68 local operators (who represent the bulk of the local operators) have received provisional recognition as Special Effects Assistants. Of these, 12 have, following further training, received provisional recognition as Special Effects Operators Class II (Film/Television). Seven of these Special Effects Operators Class II (Film/Television) are now being trained to qualify for provisional recognition as Special Effects Operators Class I (Film/Television).

21. Under our proposal, a local special effects operator who has been provisionally recognised by CTEL is deemed to have acquired all the necessary qualifications and work experience required under the proposed Entertainment Special Effects Bill. He may, within three months after the enactment of the Bill, apply for a special effects operator licence in the same stream and class of licence as provisionally recognised². For local special effects operators of the theatrical performance stream, they have by and large already acquired the relevant qualifications. CTEL will in due course issue provisional recognition to these operators to ensure that they will be able to continue their practice uninterrupted upon the promulgation of the new licensing system pending the issue of the Special Effects Operator (Stream B) licences.

² Depending on the nature of his work, a provisionally recognised Special Effects Assistant may apply for either a Special Effects Assistant (Stream A) licence or a Special Effects Assistant (Stream B) licence. A provisionally recognised Special Effects Operator Class I (Film/Television) and a Special Effects Operator Class II (Film/Television) may apply for a Special Effects Operator Class I (Stream A) licence and a Special Effects Operator Class II (Stream A) licence respectively.

MERITS OF THE PROPOSED REGULATORY REGIME OVER THE EXISTING ONE

22. The proposed regulatory framework aims to strike a balance between meeting the operational needs of the entertainment industry and protecting public safety. It offers improvements over the existing regulatory regime in the following respects -

- (a) the establishment of a one-stop licensing authority to oversee the use of special effects materials in the production of entertainment special effects will considerably rationalise and streamline the existing arrangements. It is administratively more efficient and will encourage compliance by the industry;
- (b) the introduction of a licensing system for special effects operators will help to build up a pool of locally qualified practitioners who will practise their trade safely. This is conducive to enhancing the professional expertise of the local entertainment industry;
- (c) the proposed regulatory measures have either dispensed with or alleviated the more onerous regulatory measures under the existing regime to the extent commensurate with appropriate safety and security considerations. For instance, a licensed operator will not be required to obtain a removal permit for the conveyance of pyrotechnic special effects materials within certain limits for his own use. He can store non-conventional pyrotechnic special effects materials in a movable store for use on the set; and
- (d) appropriate measures will be drawn up to regulate the production of special effects scenes involving the combined use of a wider range of pyrotechnic materials and other dangerous goods as well as the use of non-conventional pyrotechnic materials (e.g. detonators, detonating cords and shaped charges). This will encourage more creative use of pyrotechnic materials in film-making.

IMPACT OF THE PROPOSED REGULATORY REGIME ON THE LOCAL ENTERTAINMENT INDUSTRY

23. While the proposed regulatory regime covers a variety of permits and licences, practically speaking a special effects operator may engage in the production of special effects scenes involving pyrotechnic materials and other dangerous goods if he possesses a special effects operator licence and a movable store licence for the temporary storage of pyrotechnic materials to be used on the set. He may acquire pyrotechnic special effects materials for his own use from a licensed supplier. Or if he chooses to acquire pyrotechnic special effects materials direct from overseas suppliers or manufacturers, he need only to apply for a removal permit for conveying imported pyrotechnic special effects materials from the point of entry to a licensed store. There is no need to apply for a supplier licence. A special effects operator will be exempted from applying for a removal permit for conveying to the set pyrotechnic special effects materials not exceeding certain exempted quantities; such exempted quantities to be set at levels sufficient to produce a typical special effects scene. A special effects operator will not generally require a fixed store licence for pyrotechnic special effects materials unless he wishes to have his own storage facility. To obviate the need for frequent renewal of licences, the validity period for special effects operator licences, movable and fixed store licences for pyrotechnic special effects materials and licences for suppliers of pyrotechnic special effects materials will all be set at two years.

CONSULTATION WITH THE INDUSTRY

24. The industry and the Film Services Advisory Committee (FSAC) have been consulted on the proposed regulatory regime. Generally speaking, the trade and the FSAC responded positively to the proposal. They agreed that in the interest of protecting public safety, the existing regulatory regime should be replaced by an administratively efficient regime which would better meet the operational needs of the industry. They have made a number of suggestions to make the proposed regime more user-friendly. These have been incorporated, as far as possible, in the proposed regulatory framework. The industry was also understandably concerned about the fees and the processing time for the various permits and licences. In drawing up the

detailed licensing requirements and application processing procedures, we shall continue to identify opportunities for further streamlining the operation of the proposed regulatory system in order to make it as user-friendly as possible. This would in turn keep down the cost of administering the new regulatory system, thus enabling the fees to be charged under the proposed regulatory system, whilst set at full-cost recovery level, to stay at reasonable levels.

WAY FORWARD

25. We shall proceed with the drafting of the Entertainment Special Effects Bill with a view to introducing it into the Legislative Council in 2000.

Information Technology and Broadcasting Bureau
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**An Outline of the Existing System for
Regulating the Use of Pyrotechnic Materials
and Other Dangerous Goods
in Film Production, Television Programme Production
and Theatrical Performance**

At present, the storage, conveyance, use and discharge of pyrotechnic materials and other dangerous goods for the production of special effects in film production, television programme production and theatrical performance are regulated by the Dangerous Goods Ordinance (Cap. 295) and the Gas Safety Ordinance (Cap. 51), involving the following five different departments:

| Category | Items Regulated | Authority/ Department |
|---|--|--------------------------|
| pyrotechnic materials and explosives (i.e. detonators, detonating cords and shaped charges) | discharge of pyrotechnic materials on land | TELA |
| | discharge of pyrotechnic materials at sea | MD |
| | discharge of explosives | CED |
| | conveyance of pyrotechnic materials and explosives on land | CED |
| | conveyance of pyrotechnic materials and explosives at sea | MD |
| Liquefied Petroleum Gas (LPG) | storage of pyrotechnic materials and explosives | CED |
| | use and storage of LPG | EMSD |
| | conveyance of LPG on land | EMSD |
| petrol and other dangerous goods (except LPG) | conveyance of LPG at sea | MD |
| | use and storage of petrol and other dangerous goods | FSD |
| | conveyance of petrol and other dangerous goods on land | FSD |
| | conveyance of petrol and other dangerous goods at sea | MD |

Note: TELA Television and Entertainment Licensing Authority
 MD Marine Department
 CED Civil Engineering Department
 FSD Fire Services Department
 EMSD Electrical and Mechanical Services Department

Pyrotechnic Special Effects Operators

2. To ensure that the person in charge of discharging pyrotechnic materials is experienced in and qualified for producing the proposed special effects, an operator responsible for the discharge has to be registered with the Commissioner of Mines in respect of each and every discharge. To this effect, the operator is required to submit to the Commissioner of Mines his résumé and work records at the time of application for a discharge permit. After assessing the operator's competence, the Commissioner of Mines will register the operator for that particular discharge. In this regard, the Commissioner of Mines will not register any operator unless the operator has worked under the supervision of a qualified special effects operator. At present, Hong Kong does not have a licensing system for local special effects operators.

Discharge of Pyrotechnic Materials and Other Dangerous Goods

3. To discharge pyrotechnic materials on land for film production, television programme production and theatrical performance, a discharge permit issued under the Dangerous Goods (General) Regulations must be obtained from the Commissioner for Television and Entertainment Licensing. Similar discharge at sea requires a discharge permit from the Director of Marine. These two Authorities will consult the relevant departments (including the Civil Engineering Department, Fire Services Department, Hong Kong Police Force and Electrical and Mechanical Services Department) before issuing the discharge permit. Conditions on safety precaution, fire prevention and public safety are stipulated in the discharge permit. Use of explosives (including detonators, detonating cords and shaped charges) requires the prior approval of the Commissioner of Mines.

4. If fuel gas (such as LPG) is used in producing special effects, the relevant provisions of the Gas Safety Ordinance must be observed. Gas installation works must be conducted by registered gas installers employed by a registered gas installation contractor. Gas devices or containers must be approved by the Director of Electrical and Mechanical Services, who is the Gas Authority, before they are used for storing fuel gas.

5. The use of other dangerous goods (such as petrol) is regulated by the Director of Fire Services under the Dangerous Goods Ordinance. Use of a small quantity of such dangerous goods is exempted from any licensing control.

Storage of Pyrotechnic Materials and Other Dangerous Goods

6. Under the Dangerous Goods Ordinance, storage of any quantity of explosives and pyrotechnics (except safety cartridges for industrial purpose or cartridges controlled under the Firearms and Ammunition Ordinance (Cap. 238)) requires a licence issued by the Commissioner of Mines. There are two kinds of storage licences, namely, Mode A storage licence and Mode B storage licence. Mode A stores can, subject to compatibility rules, store detonators, detonating cords, shaped charges and other explosives as well as fireworks and pyrotechnic materials. Mode B stores are only allowed to store fireworks and safety cartridges. The existing legislation imposes stringent control over Mode A stores: a Mode A store must consist of a single-storeyed detached structure, properly fenced off from other structures or buildings. There must be at least two watchmen at a Mode A store round the clock.

7. Storage of other dangerous goods (except LPG) is regulated by the Director of Fire Services under the Dangerous Goods Ordinance. The storage of LPG is regulated by the Gas Authority under the Gas Safety Ordinance. According to the Dangerous Goods Ordinance and the Gas Safety Ordinance, storage of these types of dangerous goods does not require a licence if the quantities involved do not exceed the exempted quantities.

Conveyance of Pyrotechnic Materials and Other Dangerous Goods

8. Under the Dangerous Goods Ordinance, a removal permit is required for the conveyance of any quantity of explosives and pyrotechnic materials (except safety cartridges for industrial purpose or cartridges controlled under the Firearms and Ammunition Ordinance). Removal permits for conveyance on land are issued by the Commissioner of Mines, whereas removal permits for conveyance by sea are issued by the Director of Marine.

9. The conveyance of other dangerous goods (except LPG) on land is regulated by the Director of Fire Services under the Dangerous Goods Ordinance. The conveyance of LPG on land is regulated by the Gas Authority under the Gas Safety Ordinance. The conveyance of other dangerous goods (including LPG) at sea is regulated by the Director of Marine under the

Dangerous Goods Ordinance. The Dangerous Goods Ordinance and the Gas Safety Ordinance contain exemption provisions whereby the conveyance of such dangerous goods is exempted from all licensing requirements if the quantities involved do not exceed the exempted quantities.

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