STANDARD OPERATING PROCEDURES

(a) Before conducting any HESLO, the operator should develop its SOPs taking into account the elements below.

(b) Nature and complexity of the activity

(1) Nature of the activity and exposure:

Helicopter flights for the purpose of transporting external loads by different means, e.g. under slung, external pods or racks. These operations are usually performed as low level flights.

(2) Complexity of the activity:

The complexity of the activity varies with the size and the shape of the load, the length of the rope and characteristics of the pick-up and drop-off zones, the time per load cycle, etc.

Table 1: HESLO types

HESLO 1:	Short line, less than 20 meters.
HESLO 2:	Longline, more than 20 meters.
HESLO 3:	Specialised slingload, such as logging, insulators and pullers, traverse mounting, spinning of fiber cable, ice and snow removal from powerlines, sawing, geophysical surveys, cable laying, avalanche control, landslide control.
HESLO 4:	Advanced slingload such as tower erecting, wire stringing, disassembly of masts and towers.

(3) Operational environment and geographical area:

HESLO may be performed over any geographical area. Special attention should be given to:

(i) hostile and congested;

(ii) mountains;

(iii) sea;

(iv) jungle;

(v) desert;

(vi) polar and winter conditions;

(vii) lakes and river canyons; and

(viii) environmentally sensitive areas (e.g. national parks, noise sensitive areas).

(c) Equipment

(1) The helicopter may be equipped with:

(i) additional mirror(s);

(ii) a bubble window;

(iii) supplementary hook(s) or multi-hook device(s); and

(iv) load data recorder (lifts, weights, torques, power, forces, shocks and electrical activities).

(2) Non-assisted vertical reference operations may require additional engine monitoring in the pilot line of vision or an audio warning system.

(3) All additional equipment used, e.g. ropes, cables, mechanical hooks, swivel hooks, nets, buckets, chainsaws, baskets, containers, should be manufactured according to applicable rules or recognized standards. The operator should be responsible for maintaining the serviceability of this equipment.

(4) Adequate radio communication equipment (e.g. VHF, UHF, FM) should be installed and serviceable in the helicopter for co-ordination with the task specialists involved in the operation.

(5) Task specialists involved in the operation should be equipped with hand-held communication equipment, protective helmets with integrated earphones and microphones.

(d) Crew members

(1) Crew composition:

(i) The minimum flight crew as stated in the approved AFM. For operational or training purposes, an additional crew member may assist the pilot-in-command (PIC) in a single-pilot operation.

(ii) For safety and/or operational purposes, task specialists should be instructed by the operator to fulfil specified tasks (e.g. to establish vertical reference).

(2) Pilot initial training

Before acting as PIC, the pilot should demonstrate to the operator that he/she has the required skills and knowledge.

(i) Theoretical knowledge:

(A) content of the operations manual (OM) including the relevant SOP;

(B) AFM (limitations, emergencies, etc.);

(C) procedures for certain operations (short line, long line, construction, wire stringing or cable laying flying techniques, as required for the operation);

(D) load and site preparation including load rigging techniques and external load procedures;

(E) special equipment used in the operation;

(F) training in human factor principles; and

(G) hazards and dangers.

(3) Pilot experience

(i) For HESLO 1 operations, the PIC should have at least the following experience:

Prior to commencing training:

(A) The candidate should have at least 2 years' experience as task specialist (loadmaster) and 50 hours helicopter flight experience as PIC, and be approved by the NP Flight Operations to commence training.; and

(B) 10 hours flight experience on the helicopter type;

Before acting as PIC:

(C) Complete a minimum of 10 hours HESLO 1-training, according to an approved HESLO training program.

5 hours with instructor on board and 5 hours as PIC (instructor observing from the ground)

Obtain a minimum of 50 HESLO cycles.

(ii) For HESLO 2 operations, additionally to (i);

Prior to commencing training:

(A) At least qualified as PIC for HESLO 1 type;

(B) Minimum 75 hours of flight experience as PIC, and

(C) Minimum 100 HESLO cycles.

(iii) For HESLO 3 only, additionally to (i) and (ii):

Prior to commencing training:

(A) At least qualified as PIC for HESLO 1 or 2;

(B) Minimum 500 flight hours experience as PIC; and

(C) Minimum 1000 HESLO cycles.

(iv) For HESLO 4 only, additionally to (i) and (ii):

Prior to commencing training:

(A) At least qualified as PIC for HESLO 3;

(B) Minimum 1000 flight hours on helicopters; and

(C) Minimum 2000 HESLO cycles.

(4) Pilot recurrent training and checking at least every two years:

(i) review of the load rigging techniques;

(ii) external load procedures;

(iii) review of the applicable flying techniques; and

(iv) review of human factor principles.

(v) A pilot who has performed 20 hours of relevant HESLO within the past 12 months may not need any further flight training other than in accordance with Part-FCL.

(vi)The annual PC and OPC should be performed in a simulator if a suitable simulator is available.

(e) Task specialists

Before acting as task specialist, he/she should demonstrate to the operator that he/she has been trained appropriately and has the required skill and knowledge.

(1) Initial training

(i) The initial training of task specialists should include at least:

(A) behavior in a rotor turning environment and training in ground safety and emergency procedures;

(B) procedures including load rigging, usage and conservation

(replacement) of load equipment (slings, shackles, nets etc.);

(C) helicopter marshalling signals;

(D) radio communication;

(E) selection and preparation of pick-up and drop-off sites, dangers on working places (downwash, loose goods, third people);

(F) handling and safety of third party;

(G) relevant training for the helicopter type;

(H) duties and responsibilities as described in the appropriate manual;

(I) perception and classification of flight obstacles (none, critical, danger), measures for safety; and

(J) human factor principles.

(ii) The individual safety equipment appropriate to the operational environment and complexity of the activity should be described in the appropriate manual.

(2) Recurrent training

(i) The operator should define the recurrent training requirements for task specialists, taking into account the regularity of the individual task specialist's involvement in HESLO. The recurrent training requirements should also refer to the items in (e) (1) (i) above and should be specified in the operations manual. The recurrent training requirements should be approved by the competent authority.

(ii) The operator should establish a formal qualification list for each individual task specialist.

(iii) The operator should establish a system of record keeping that allows adequate storage and reliable traceability of:

(A) the initial and recurrent training;

(B) Qualifications (qualification list).

(3) Briefing of task specialists

Briefings on the organization and coordination between flight crew and task specialists involved in the operation should take place prior to each operation. These briefings should include at least the following:

(i) location and size of pick-up and drop-off site, operating altitude;

(ii) location of refueling site and procedures to be applied; and

(iii) load sequence, danger areas, performance and limitations, emergency procedures.

(4) Responsibility of task specialists operating on the ground:

(i) Task specialists operating on the ground are responsible for the safe organization of the ground operation, including:

(A) adequate selection and preparation of the pick-up and drop-off points and load rigging;

(B) appropriate communication and assistance to the flight crew and other task specialists; and

(C) access restriction on the pick-up and drop-off site.

(ii) If more than one task specialist is required for a task, one should be nominated as leading the activities. He/she should act as main link between flight crew and other task specialist(s) involved in the operation and is responsible for:

(A) task specialist co-ordination and activities on the ground; and

(B) the safety of the working area (loading and fueling).

(f) HESLO instructor

The HESLO instructor should be assigned by the operator on the basis of the following:

(1) the HESLO instructor for pilots should be suitably qualified as determined by the operator and have a minimum experience of 500 hours HESLO operations in the appropriate HESLO level on which instruction is to be provided as well as experience in instructing according to the flight instructor or type rating instructor training;

(2) the HESLO instructor for task specialists should be suitably qualified as determined by the opera- tor and have at least 2 years of experience in HESLO operations.

(g) Performance

Power margins for HESLO operations:

(i) HESLO 1 and 2
The mass of the helicopter should not exceed the maximum mass specified in accordance with SPO.POL.146(c)(1) at the pick-up or drop-off site, whichever is higher, as stated in the appropriate manual.

(ii) HESLO 3 and 4

The mass of the helicopter should not exceed the maximum mass specified in accordance with SPO.POL.146(c)(1) at the pick-up or drop-off site, whichever is higher, as stated in the appropriate manual, and in case of construction (montage) operations, reduced by 10% of the mass of the sling load capacity.

(h) Normal procedures

(1) Operating procedures:

HESLO should be performed in accordance with the appropriate manual and appropriate operating procedures. These procedures should include, for each type of operation:

(i) crew individual safety equipment (e.g. helmet, fire retardant suits);

(ii) crew responsibilities;

(iii) crew coordination and communication;

(iv) selection and size of pick-up and drop-off sites;

(v) selection of flight routes;

(vi) fuel management in the air and on the ground

(vii) task management; and

(viii) third party risk management.

(2) Ground procedures:

The operator should specify appropriate procedures, including:

(i) use of ground equipment;

(ii) load rigging;

(iii) size and weight assessment of loads;

(iv) attachment of suitably prepared loads to the helicopter;

(v) two-way radio communication procedures;

(vi) selection of suitable pick-up and drop-off sites;

(vii) safety instructions for task specialists operating on the ground;

(viii) helicopter performances information;

(ix) fuel management on the ground;

(x) responsibility, organization and task management of other personnel on the ground involved in the operation;

(xi) third party risk management; and

(xii) environmental protection.

(i) Emergency procedures

(1) Operating procedures for the flight crew:

In addition to the emergency procedures published in the AFM or OM, the operator should ensure that the flight crew:

(i) is familiar with the appropriate emergency procedures;

(ii) has appropriate knowledge of the emergency procedures for personnel on the ground involved in the operation; and

(iii) reports emergencies as specified in the AFM or OM.

(2) Ground procedures:

The operator should ensure that the task specialist on the ground involved in the operation:

(i) is familiar with the appropriate emergency procedures;

(ii) has appropriate knowledge of the flight crew emergency procedures;

(iii) reports emergencies as specified in the AFM or OM; and

(iv) prevents, as far as possible, environmental pollution.

(j) Ground equipment

The operator should specify the use of ground equipment, such as fuel trucks, cables, strops etc. in the AFM or OM, including at least:

(1) minimum size of the operating site;

(2) surface condition;

(3) positioning of ground equipment on the operating site;

(4) fuel handling;

(5) environment protection plan; and

(6) location and use of fire suppression equipment.