



DANGEROUS GOODS PANEL (DGP) MEETING OF THE WORKING GROUP OF THE WHOLE

Atlantic City, United States, 4 to 8 April 2011

Agenda Item 3: Development of recommendations for amendments to the *Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284SU) for incorporation in the 2013-2014 Edition

DANGEROUS GOODS TRANSPORTED IN EXTERNAL LOADS

(Presented by J. McLaughlin)

SUMMARY

This paper provides information which could be considered for inclusion in the Supplement to the Technical Instructions to aide States as they review requests by rotorcraft operators seeking to transport dangerous goods in external loads.

1. INTRODUCTION

1.1 DGP-WG/11-WP/69 proposes that the Technical Instructions indicate the transportation of dangerous good in external loads be permitted by exemption only. This approach reflects the additional risks, specialized operations, and the unique operating environments associated with transporting dangerous goods in external loads. An exemption process would ensure training requirements, mitigation plans, and other safety related requirements are appropriately tailored to specific types of operations. In other words, attempting to address this issue in the Technical Instructions may create ambiguity, if not additional and unnecessary requirements.

1.2 If the working group should agree to address dangerous goods transported by external load as part of an exemption process, it would be beneficial to provide guidance for States. The information attached to this paper could be valuable for States to consider and therefore be worthy of inclusion in the Supplement to the Technical Instructions. As with any guidance to States provided in the Supplement, each State would be able to incorporate provisions into their individual programmes.

1.3 The attached guidance material is intended to address the transportation of *dangerous goods* in external loads. Operational considerations (i.e. all other risks) in transporting external loads not specific to dangerous goods, should also be part of the review and oversight program applicable to all operators.

2. CONSIDERATION BY THE DGP-WG

2.1 Should the DGP-WG agree that the transportation of dangerous good in external loads be allowed only by exemption, guidance material and processes would be useful to include in the Supplement for States as they review applications for these types of exemptions. The information attached in the appendices is taken from the Dangerous Goods Program for Rotorcraft External Load Operator. The appendices include:

- a) Appendix A: State Memorandum for Rotorcraft External Load Operations: This document provides the basis for States to adopt an internal policy when conducting review and oversight of external load operations involving dangerous goods.
- b) Appendix B: External Load Annex to Program: Offers an example of how external load operators can submit training and operations procedures when seeking an exemption to transport dangerous goods. The Annex supplements the operator's State-approved rotorcraft operations manual with operational procedures specific to dangerous goods transport.
- c) Appendix C: Mitigation Plan for External Load Operators: As referenced in Addendum 2 to the External Load Annex to Program, the preparation, approval, and adherence to this document would ensure that an equivalent level of safety to the provisions in the Technical Instructions would be provided when dangerous goods are transported in external load operations.
- d) Appendix D: External Load Exemption: Provides a sample exemption allowing dangerous goods to be transported in external load operations. The exemption and the mitigation plan determine the scope of the operations, and identify where the operations are performed and what types and quantities of dangerous goods will be accepted, handled during transport.

APPENDIX A

STATE MEMORANDUM FOR ROTORCRAFT EXTERNAL LOAD OPERATIONS

State Requirements Memorandum	State Dangerous Good Transport Oversight Program	State Requirement number XX
SUBJECT:	Rotorcraft External Load Operations	Date: xxxxxxx

PURPOSE:

This memorandum summarizes the regulatory requirements pertaining to State Operating Regulations for Rotorcraft certificate holders when they choose to accept, offer, handle or transport dangerous goods during rotorcraft external-load operations. It is the responsibility of all air operators to reject any dangerous good being offered for transportation that is not prepared for shipment in accordance with ICAO TI. Transportation aboard an aircraft of any shipment not in compliance with the ICAO TI is forbidden. Although ICAO TI describes the requirements needed to transport dangerous goods onboard an aircraft, it does not, however, include information on how these requirements should be fulfilled when conducting external-load operations. This policy memo describes the process that all Rotorcraft operators will follow to comply with the applicable dangerous goods requirements in State regulations and ICAO TI. Job aids have been developed the State to help alleviate some of the difficulties Rotorcraft operators may have when complying with the prescribed procedures. Included with this policy is a Question and Answer document that provides further details regarding the policy and how it effects external load operations, and a sample manual that is now required to be submitted for approval to the State. This sample manual outlines the basic elements that should be included in an external-load operator's manual and will assist the State in evaluating these Rotorcraft dangerous good manuals.

APPLICABILITY:

This policy applies to all rotorcraft conducting external-load operations (as these aircraft and operations are defined by the State) who are certificated for this purpose under State regulations. These operators are subject to requirements in State regulations and the ICAO TI when they choose to accept, offer, handle or transport dangerous goods during rotorcraft external-load operations. In addition, it is the responsibility of all air operators to reject any dangerous good being offered for transportation that is not prepared for shipment in accordance with ICAO TI in the course of their external load operations. Transportation aboard an aircraft of any shipment not in compliance with the ICAO TI is forbidden.

BACKGROUND:

The aviation authority has determined that Dangerous Goods carried in external load combinations and configurations creates a hazard to persons and property on the ground and is not permitted under State

regulations. While compliance with ICAO TI was always required, the State previously specified Dangerous Goods programme requirements only for air carriers under State operating regulations not conducting external load operations.

The acceptance, handling and transportation of Dangerous Goods to be carried on board, including attached to or suspended from, an aircraft is also subject to the requirements of ICAO TI. This memorandum provides guidance concerning the applicability and use of ICAO TI when Rotorcraft operators are accepting, rejecting, offering, handling, or transporting Dangerous Goods in air transportation. State oversight programmes will ensure that Rotorcraft certificate holders are aware of the ICAO TI regulations governing the transportation of Dangerous Goods by air. Operators should be made aware that their compliance with the ICAO TI is mandatory. All operators who transport Dangerous as external-load, are subject to the requirements in the ICAO TI. Also, operators must develop and implement a system that will allow them to remain current with these regulations as they are updated and/or changed.

RESPONSIBILITY FOR ACCEPTANCE/APPROVAL, SURVEILLANCE, AND ENFORCEMENT OF DANGEROUS GOODS PROGRAMMES

The State has the responsibility for oversight of an operator's Dangerous Goods programme. The State's technical experts will evaluate all Dangerous Goods programmes. An operator's Dangerous Goods programme may be contained in its Dangerous Goods operations manual and includes Dangerous Goods training.

Certificate Oversight Responsibilities State inspectors with certificate responsibilities for Rotorcraft operators that accept, transport, ship or handle Dangerous Goods will ensure that operators include in their manuals, procedures on the following:

- Items identified as Dangerous Goods must be properly packaged, marked and labeled in accordance with ICAO TI.
- Dangerous Goods must be in packaging specifically authorized for carriage on cargo-only aircraft as indicated in the Dangerous goods Table of the ICAO TI.
- Identification of Dangerous Goods must include the proper shipping name, hazard class or division, identification number and packing group, when required.
- Total quantity of Dangerous Goods must be within the quantity limitations authorized for each Dangerous Goods when being shipped by air, as indicated in the ICAO TI.
- Required shipping papers, Exemptions or Approvals issued by the State, must accompany the shipment.
- Emergency response information must accompany the shipment and available wherever the Dangerous Goods is received, stored or handled in accordance with ICAO TI.
- Dangerous Goods shipments must be inspected to ensure there is no damage or leakage prior to being transported in accordance with ICAO TI.
- The Pilot in Command (PIC) must be notified when Dangerous Goods is being carried on board (including attached to or suspended from) the aircraft in accordance with ICAO TI.
- Issues involving Dangerous Goods that qualify as Dangerous Goods Accidents or Incidents, must be reported to the appropriate authorities of the State of the operator and the State of occurrence.
- Procedures and information to assist personnel (particularly maintenance, shipping, and stores personnel) to identify or recognize aircraft components and consumable materials that contain Dangerous Goods;

- Procedures and information on how these regulated aircraft components or consumable materials are to be moved, stored, or handled within the facilities of the air operator, air carrier, or other air agency with whom they may be contractors;
- Procedures and information for determining the proper packaging, marking, labeling, and compatibility of materials, including instructions for the safe movement, storage, and handling of aircraft components and consumable materials that contain Dangerous Goods while they are within their facilities;
- Information, guidance, and precautions on the specific hazards associated with aircraft components and consumable materials containing Dangerous Goods that are to be moved, stored, or handled within their facilities; and
- Information, instructions, and detailed procedures for the proper disposal of unserviceable aircraft components and consumable materials containing Dangerous Goods.

State inspectors will also ensure that Rotorcraft operators who choose not to accept, handle or transport Dangerous Goods, include procedures and instructions in their manuals that:

- Ensure all personnel responsible for accepting and handling any cargo or packaged materials are able to recognize items that are or could be classified as Dangerous Goods.
- Ensure no packages are accepted by the operator that contain Dangerous Goods
- Direct all personnel on how to report packages that are found to contain, or that are suspected of containing, Dangerous Goods and ensure compliance with ICAO TI .
- Ensure all Spares / Company Material (COMAT) containing Dangerous Goods is offered to a different mode of transportation, e.g. by ground, and/or to another operator that is authorized to transport Dangerous Goods; and
- Ensure any employee, agent or contract employee of the operator who prepares and/or offers COMAT containing Dangerous Goods for shipment via any mode, is fully trained as a Dangerous Goods shipper in compliance with ICAO TI.

Procedures for Approval of Dangerous Goods Manuals When a State inspector receives a Dangerous Goods manual for review from an air operator, the inspector will review the contents of the manual and consult with the operators as necessary. The operator should coordinate with the State as necessary to formulate a satisfactory Dangerous Goods manual. Once the State is satisfied with the manual, the State will approve the manual.

Procedures for Approval of Rotorcraft Load Combination Flight Manual (RLCFM) Operators must ensure their RLCFM incorporates procedures related to the carriage of Dangerous Goods, including normal, abnormal, and emergency procedures appropriate to the operation. The State will review the RLCFM and approve or recommend changes before approval.

Procedures for Approval of Dangerous Goods Training When a State inspector receives a proposed or updated Dangerous Goods training programme from an operator; the inspector will evaluate the contents of the training programme and consult with the operator as necessary. The operator should coordinate with State inspectors as necessary to formulate a satisfactory Dangerous Goods training programme. Once the State is satisfied with the training programme, the State will approve the implementation of the training programme.

AUTHORIZATION TO CARRY DANGEROUS GOODS

After the operator's Dangerous Goods manual and training programme has been recommended for approval by the State, the State will approve the carriage of dangerous goods by issuing operations specifications. If a Rotorcraft operator is not authorized to carry dangerous goods, the State will ensure issuance of operations specifications forbidding transport of dangerous goods.

“WILL-CARRY” OPERATORS

If the Rotorcraft operator is already authorized to accept, handle and transport Dangerous Goods (referred to as a “will-carry” operator) under current State operating regulations for other than external load operations, they may modify the Dangerous Goods manual and training programme under that certificate to include Rotorcraft operations. Once this programme is revised and approved by the State, the State will issue operations specifications to the Rotorcraft certificate.

“WILL-NOT-CARRY” OPERATORS

If a Rotorcraft operator is not authorized to carry dangerous goods, the State will ensure issuance of operations specifications forbidding transport of dangerous goods.

EXEMPTIONS

Although the ICAO TI requirements apply to the transportation of Dangerous Goods in commerce on board, including when it is attached to or suspended from an aircraft, the individual requirements were written primarily for fixed-wing aircraft. As such, it is expected that Rotorcraft external load operators will not be able to comply with the ICAO TI requirements as written and must therefore request an exemption.

When an operator submits a request to the State for an initial exemption, renewal or modification of their existing exemption, the State inspector will review the competence and compliance history of the certificated operator.

VIOLATIONS AND INVESTIGATIONS

When a State inspector becomes aware of a suspected Dangerous Goods violation by a Rotorcraft air operator, the State may conduct inspections, surveillance, and investigations as appropriate of air operators, air carriers, freight forwarder, shippers, repair stations, and any other persons who cause Dangerous Goods to be transported in air commerce within the State's area of responsibility.

SOURCES OF INFORMATION

The following regulations and publications pertaining to the safe transportation of Dangerous Goods are available electronically:

National Sources National sources of information pertaining to the safe transportation of Dangerous Goods are as follows:

- State operatin regulations are applicable to rotorcraft operations and define the duties and responsibilities for preparing and implementing procedural manuals and training programmes dealing with the transportation of Dangerous Goods by rotorcraft.

- ICAO TI deals with the proper identification, classification, packaging, labeling, marking, and certification of Dangerous Goods transported in commerce.
- State Dangerous Goods Program website: www.state.xxx

ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air These technical instructions amplify the basic provisions of Annex 18 to the Convention on International Civil Aviation, and contain detailed instructions necessary for the safe international transport of dangerous goods by air. These instructions are issued in a 2-year edition on alternate Septembers, becoming effective the following January 1.

Applicable Regulatory References

SUBJECTS	REGULATORY REFERENCES
*‡ Dangerous goods and Classifications	ICAO TI, Part 2
‡ Transport Document and Certification Requirements	ICAO TI, Part 5, Chapter 4
*‡ Packaging, Marking, and Labeling	ICAO TI, Part 5, Chapters 2-3
* Exceptions to the Regulations	ICAO TI, Part 1, Chapter 2 ICAO TI, Part 8
Written Notification of PIC and Emergency Response Information	ICAO TI, Part 7, Chapter 4
* Reporting Dangerous goods Incidents/Discrepancies	ICAO TI, Part 7, Chapter 4
Loading, Unloading, and Handling	ICAO TI, Part 7, Chapter 2

* Operators that do not accept or transport dangerous goods or dangerous goods must provide training in these subjects.

‡ In accordance with ICAO TI

State Oversight Program Contacts

Branch	Manager Contact Information

APPENDIX B

**ROTORCRAFT EXTERNAL-LOAD DANGEROUS GOODS OPERATIONS
AND TRAINING ANNEX**

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ROTORCRAFT EXTERNAL-LOAD
DANGEROUS GOODS
OPERATIONS AND TRAINING ANNEX

INTRODUCTION:

This annex supplements our State air operator DANGEROUS GOODS operations and training requirements with additional or modified requirements to permit the safe transportation of dangerous goods in rotorcraft external load operations. These additional or modified requirements will be followed by all employees, agents or contract employees who perform or directly supervise any Dangerous Goods-related job function involving any item for transport in rotorcraft external load operations. This includes any and all specified requirements for the acceptance, rejection, handling, storage incidental to transport, packaging of Spares / COMAT or loading of DANGEROUS GOODS.

We are responsible for compliance with all relevant provisions of the Dangerous goods regulations while conducting rotorcraft external load operations.

A current copy of this annex or appropriate portions thereof will be made available to ground personnel, maintenance personnel, and crewmembers when performing any DANGEROUS GOODS duties. We will also ensure a current copy of ICAO TI is available to persons who perform or directly supervise the acceptance, handling or transportation of Dangerous Goods, for or on our behalf, wherever such activities are conducted.

We will not use or allow any crewmember or any person performing work for or on our behalf, or who contracts with us to perform or directly supervise any job function listed on the Training Reference Table for air carrier operations, unless that person has satisfactorily completed our State approved initial or recurrent DANGEROUS GOODS program within the past 24 months. Persons who are not direct employees of our company will be notified in writing of our policies pertaining to DANGEROUS GOODS. **(See Appendix E)**

For operations over congested areas we understand that a Congested Area Plan (CAP) may be required, which is separate and apart from this manual, as well as this annex for rotorcraft external-load operations involving Dangerous Goods. If a CAP is necessary, we will submit our plan to the State authority and coordinate the activity with the office having jurisdiction over the area in which the operations will be conducted.

To the best of our ability, we will conduct our external load operations at an altitude and on a route that will allow a jettisonable load to be released and the rotorcraft landed in an emergency without hazard to persons or property on the surface.

ACCEPTANCE OF DANGEROUS GOODS IN EXTERNAL LOADS

I. ACCEPTANCE PROCEDURES

Persons (shippers) offering DANGEROUS GOODS for transportation by external-load are responsible for properly identifying, describing, classifying, packaging, marking, and labeling the materials as required by ICAO TI. They are also responsible for completing the communications and packaging requirements prior to offering the shipment for transportation. **Alternative procedures may be authorized by State Exemption or Approval.**

Employees, agents and contract employees who perform work for or on our behalf, may rely on the certification and information provided by the shipper to determine if the Dangerous Goods shipment is authorized for transportation by external load. (See Appendix A, Hidden Shipment Indicators)

The process used for dangerous goods acceptance under our air operator certificate will be used for the acceptance of external loads to ensure that:

A. Shipping Documents and Certification are in accordance with ICAO TI and include the proper shipping name and other elements of the basic description, e.g. hazard class or division, UN/ID number and packing group. This also includes the total quantity, emergency response telephone number and the shipper's certification. **Alternative procedures may be authorized by State Exemption or Approval.**

B. Marking will be in accordance with ICAO TI and will include the proper shipping name and UN/ID number on the outside of the package, container or overpack. Orientation arrows pointing in the correct upright direction will also be marked on packages containing liquid Dangerous Goods, unless otherwise excepted. **Alternative procedures may be authorized by State Exemption or Approval.**

C. Labeling will be in accordance with ICAO TI. Acceptance personnel will verify that the outside of the package is labeled with the appropriate label(s) to include the "Cargo Aircraft Only" label for packages containing a quantity of Dangerous Goods that may be shipped only on cargo aircraft. **Alternative procedures may be authorized by State Exemption or Approval.**

D. Non-Compliant Dangerous Goods will be rejected and such items will be segregated from other cargo until disposed of or corrected for compliance prior to transport.

NOTE: Under circumstances where it is impractical or not possible to comply with one or more of these acceptance requirements, a exemption will be requested from the appropriate State authority. The request will include the justification and any alternative or equivalent safety measures to be used. Where no alternative or equivalent level of safety is available, justification will be provided to assist the State in determining whether transportation under these circumstances is in the public interest.

II. SPARES or COMPANY MATERIALS (COMAT)

Dangerous Goods Spares also known as COMAT will be transported by external-load in full compliance with the Dangerous goods Regulations. This may require that our qualified employees, agents or contract employees tender the COMAT to another air carrier or air operator, or to another

mode of transportation. When it is necessary to transport Dangerous Goods COMAT by external load, which includes replacement items for installed equipment and consumable materials (**See Addendum 3**), we will obtain a exemption from the State to allow us to deviate from the as necessary, while ensuring an equivalent level of safety is provided and maintained during transport. Employees, agents, and contract employees who tender our COMAT to other carriers or modes will receive function-specific training in accordance with ICAO TI.

III. LOADING / STOWAGE / HANDLING PROCEDURES will only be performed by

employees, agents, or contract employees specifically trained in these functions. Dangerous Goods will not be attached to or suspended from our rotorcraft as an external load unless the shipment is properly accepted and packaged, and the Pilot-In-Command has been properly notified in accordance with ICAO TI.

A. Stowage and Segregation will be performed in accordance with ICAO TI and this manual to ensure that packages containing Dangerous Goods that may react dangerously with other Dangerous Goods, are not placed next to each other or in a position that would cause a dangerous interaction in the event of leakage. The segregation table provided in this manual and training program will be used to properly segregate these items.

NOTE: Under circumstances where it is impractical or not possible to comply with one or more of these acceptance requirements, a exemption will be requested from the appropriate State authority. The request will include the justification and any alternative or equivalent safety measures to be used. Where no alternative or equivalent level of safety is available, justification will be provided to assist the State in determining whether transportation under these circumstances is in the public interest.

Toxic and Radioactive Materials (RAM): will not be stored or transported by external load with foodstuffs or other edible material, or in excess of the allowable Transport Index (TI) for RAM prescribed in ICAO TI.

B: Pre-Board Inspection of each package, container or overpack containing Dangerous Goods, will be conducted by properly trained employees, agents or contract employees immediately prior to placing it in a freight container or on a pallet and attaching the shipment to our rotorcraft as an external-load. The same inspection procedures prescribed in this Dangerous Goods manual will be used for our external load operations.

Cargo-Only Aircraft (including Rotorcraft utilizing external-loads) will be loaded in accordance with the requirements for radioactive Yellow II or III labels prescribed in this manual.

D: Emergency Response Information will be determined and made immediately available for each Dangerous Goods shipment wherever the Dangerous Goods is received, stored, or handled for transportation by external-load. Emergency response information will also be immediately available to crewmembers onboard the rotorcraft while Dangerous Goods is being transported by external load.

IV. PILOT-IN-COMMAND NOTIFICATION The notification will include the information required by this manual and as prescribed in ICAO TI. **Alternative procedures may be authorized by State Exemption or Approval.**

V. **EXEMPTIONS** will be required to allow the transport of any Dangerous Goods by external-load. We will request an Exemption from appropriate State authority in coordination with our Principal Operations Inspector (POI in the location where our certificate is held or where our operations will be conducted. A copy of each Exemption held will be attached as an Addendum to this Annex. (See **Addendum 1, Exemptions**).

VI. **DANGEROUS GOODS EXCEPTIONS** will be in accordance with ICAO TI or as outlined in our State exemption.

VII. **NOTIFICATIONS** will be made in writing to each person under contract with us (e.g repair stations, handling agents) performing work on our behalf, to ensure they are aware of our policies pertaining to DANGEROUS GOODS when transported by external-load. Such persons must acknowledge receipt of our notification and a record of this receipt will be kept together with the notification. (See **Addendum 4**)

VIII. **DANGEROUS GOODS ACCIDENT AND INCIDENTS** will be reported to the appropriate authorities in accordance with this manual and ICAO TI (Part 7, 4.4).

IX. **SECURITY PLANS** will be established, when required by Annex 18, to address the security risks associated with certain types of High Consequence Dangerous Goods (ICAO TI Part 1, 5.3) when transported in commerce by external-load, as prescribed in ICAO TI and our State exemption.

X. **MITIGATION PLANS** will be prepared to address the specific external-load

operations being conducted and to identify what measures will be taken to mitigate the hazards to persons and property on the surface, as required by State regulations. The following items will be addressed in our Mitigation Plan **Addendum 2 Mitigation Plans**).

The details contained in this Mitigation Plan will be used in our request and justification for a Exemption from the State. We understand that an Exemption is required to allow us to transport DANGEROUS GOODS by air in external-load combinations and configurations. Once granted, the Exemption will be identified in our Mitigation Plan. A copy of the Exemption and our accepted Mitigation Plan, will be attached to the appropriate Addendum to this Annex. (See **Addendum 1 Exemptions**)

DANGEROUS GOODS TRAINING PROGRAMME

I. ESTABLISHMENT OF TRAINING PROGRAMMES

Initial and recurrent Dangerous Goods training programmes will be established and maintained by this Operator. Our programme has been reviewed and approved by the State. All personnel will be trained in all requirements commensurate with their responsibilities.

II. TRAINING CURRICULA contained in this manual will be used to ensure each employee, agent or contract employee is thoroughly trained on all aspects of the function(s) they perform and will be able to recognize items that contain or may contain regulated DANGEROUS GOODS to be transported by external-load. Testing will be conducted in accordance with this manual.

III. ASPECTS OF DANGEROUS GOODS IN AIR TRANSPORTATION will be included in the function-specific training for all employees, agents, or contract employees who perform or supervise any Dangerous Goods-related job function in support of our external-load operations and the specific DANGEROUS GOODS being transported. The topics to be included in this training will be in accordance with this manual and ICAO TI (Table 1-4).

ADDENDUM 1

EXEMPTIONS

It has been determined that the transportation of DANGEROUS GOODS in commerce, when carried in external-load combinations and configurations, may create a hazard to persons and property on the surface which is not permitted under Annex 6.

In order to provide an equivalent level of safety, where possible, when transporting DANGEROUS GOODS in external-load combinations and configurations, the attached Exemptions have been granted by the State where our external-load operations will be conducted.

SEE ATTACHED

ADDENDUM 2**MITIGATION PLANS**

It has been determined that the transportation of DANGEROUS GOODS in commerce, when carried in external-load combinations and configurations, may create a hazard to persons and property on the surface which is not permitted under Annex 6.

In order to provide an equivalent level of safety, where possible, when transporting DANGEROUS GOODS in external-load combinations and configurations, the attached Mitigation Plan(s) has/have been reviewed and approved by the State where our certificate is held and where our external-load operations will be conducted.

SEE ATTACHED

ADDENDUM 3

DANGEROUS GOODS Onboard Rotorcraft

Delete this box and utilize this space to add a picture(s) of representative rotorcraft for your fleet and annotate where the various items listed below are located on the rotorcraft.

Spaces 18-20 in the list below can be utilized for additional Dangerous Goods items applicable to your rotorcraft that are not already listed.

1. Batteries, Aircraft		11. Oxygen Bottles, Crew System, Gaseous
2. Engine Oil (as hazardous waste)		12. Oxygen Bottles, Passenger System, Gaseous (Standard)
3. Escape Slides/Life Rafts		13. Oxygen Generators (optional: each PSU standard: each attendant station and lavatory)
4. Fire Bottles (APU, engines, lower cargo compartment, and lavatory waste containers)		14. Smoke Hoods
5. Fire Extinguishers		15.
		16.
6. Fuel		17.
		18.
7. Hydraulic Fluid, Reservoirs (as hazardous waste)		19.
		20.
8. Rain Repellant		
9. Ordnance Devices		
10. Oxygen Bottles, Portable, Gaseous		

ADDENDUM 4

Notification of Dangerous Goods Policies and Authorizations

Date:	
To:	
From:	

_____ is hereby notifying you of our policies and authorizations concerning the transport of DANGEROUS GOODS.

_____ has an FAA approved **Dangerous Goods Program** as follows:

	(certificate holder name) will accept and transport all properly declared and packaged DANGEROUS GOODS.
	(certificate holder name) will accept and transport properly declared and packaged DANGEROUS GOODS COMAT only.
	(certificate holder name) will accept and transport all properly declared and packaged DANGEROUS GOODS with the following exceptions:

APPENDIX C

ROTORCRAFT EXTERNAL-LOAD OPERATOR MITIGATION PLAN FOR THE
TRANSPORTATION OF DANGEROUS GOODS

***BASIS:** The transportation of Dangerous Goods (DG) in commerce when carried in external-load combinations and operations, creates a hazard to persons or property on the surface and is not permitted under State regulations. Such transportation by Rotorcraft External-Load Operators must be conducted in accordance with both State regulations and the ICAO TI. Since these regulations do not provide sufficient guidance to ensure DG is afforded an equivalent level of safety during external load operations, an Exemption must be obtained and a safety mitigation plan must be prepared and approved to permit the transport of DG in this manner.*

1. Contact Information: (Identify company and contractor names, addresses, phone numbers, e-mail addresses, etc.)

2. External-load operations to be conducted: (Describe area of operations, delivery & pick-up points, ingress/egress routes, altitudes and local coordination conducted when necessary.)

3. Equipment to be used: (Rotorcraft make, model, airworthiness category, registration number, etc.)

4. Dangerous Goods in external-loads: (Identify each item of DG to be transported by external-load by its' proper shipping name, hazard class, UN/ID number and packing group, and the quantity of each item to be carried.)

5. Dangerous Goods forbidden in air transportation: (Identify each forbidden DG to be transported by external-load by its' proper shipping name, hazard class, UN/ID number and packing group and the quantity of each item to be carried.)

6. Explosives in external-loads: (Identify the types of explosives materials to be transported by external-load, how will compatibility be determined, how will segregation be accomplished and who will ensure explosives are attended at all times?)

7. Quantity of explosives: (Enter the total net weight of each type of explosive to be transported by external-load. Identify each type of explosive by hazard classification/division and compatibility group.)

8. Maintaining records: (Identify the location where required records of each flight that transports explosives by external-load are kept.)

9. Security Plan: (Enter the date the Security Plan or latest revision was approved. Describe the security plan measures taken to address the security risk associated with the types of Dangerous Goods being transported by external-load.)

() Security Plan or relevant parts or sections attached:

10. Actions to mitigate the hazards: (Describe the actions, methods or procedures being used to minimize or mitigate the hazard to persons and property on the ground - address the following:)

- Possible impact on safety
- Specific measures taken to mitigate the risks and hazards
- Alternative measures taken to achieve an equivalent level of safety as that provided by regulation.
- Comparison between specific and alternative safety measures being taken and those safety measures required by regulation.

11. Ceasing Operations: (Describe procedures to be used to cease external-load operations when a potential or actual hazard occurs.)

12. Exemption from State Authority: (provide special permit application to State Authority.)

<p>13. State authority and DG Program Contact: (Identify the DG office that serves the location where external-load operations will be conducted.)</p>
<p>14. Employee Training: (Confirm whether company employees and contractor employees who perform DG related functions have been trained in accordance with State operating regulations and ICAO TI as appropriate. Identify the location where required training records are kept.)</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/></p>
<p>15. Review of references: (Confirm whether State operating regulations for the authorized carriage of DG has been reviewed by appropriate company and contractor employees, and that all employees responsible for dangerous goods functions understand the requirements to ensure the operator is in compliance.)</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/></p>
<p>16. Rotorcraft Load Combination Flight Manual (RLCFM): (Enter the date the RLCFM was approved by the State. Identify which sections of the RLCFM (if any) were revised to address the carriage of DG by external-load.)</p> <p>Approval Date: _____ State Inspector Name: _____</p> <p>() RLCFM or relevant parts or sections attached:</p>
<p>17. Additional Information/Remarks: (Provide any additional or supplemental information relevant to the implementation of this mitigation plan.)</p>

APPENDIX D

EXTERNAL LOAD EXEMPTION

Exemption Number XXXXX

EXPIRATION DATE:

(FOR RENEWAL, SEE Annex 6)

1. GRANTEE: (Add Operator Name)

(Add Operator State address)
(Add Certificate Number)

2. PURPOSE AND LIMITATION:
 - a. This exemption authorizes the transportation in commerce of certain dangerous goods by Rotorcraft External Load Operations transporting dangerous goods attached to or suspended from an rotorcraft, in remote areas, without being subject to hazard communication requirements, quantity limitations and certain loading and stowage requirements.. This exemption provides no relief from the Dangerous goods Regulations other than as specifically stated herein.
 - b. The granting of this exemption is temporary, not to exceed xx days, pending programmeme approval by the appropriate State authority, and completion of #7.1. and #11.b. as required by this exemption. Upon completion of these requirements, the use of this exemption may be extended to two years, as appropriate.
 - c. The safety analyses performed in the development of this exemption only considered the hazards and risks associated with the transportation in commerce.
 - d. No party status will be granted to this exemption.

3. REGULATORY SYSTEM AFFECTED: Applicable Parts of State regulations and the ICAO TI

4. REGULATIONS FROM WHICH EXEMPTED: Applicable regulations in ICAO TI in that shipping papers and certain marking requirements are waived for other than Class 1 materials.

5. BASIS: This exemption is based on the application of
(operator name) dated _____ submitted in accordance with ICAO TI.

6. DANGEROUS GOODS

Dangerous goods Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group

7. SAFETY CONTROL MEASURES FOR MATERIALS OTHER THAN CLASS 1:

- a. PACKAGING - Prescribed packaging is the manufacturer's original packaging or a packaging of equal or greater strength and integrity. Compatibility and effectiveness of all packaging must, at a minimum, meet the requirements of ICAO TI to include protection where necessary from the effects of weather (e.g by damage from rain or snow).
- b. All packages must be blocked and braced to prevent movement.
- c. Aerosols and compressed gases must be secured in an upright position with protective caps and/or covers installed to prevent any unwanted discharge.
- d. Batteries must have their terminals insulated to prevent short circuits.
- e. Liquid fueled or gasoline powered equipment may be filled to not more than 80% of their capacity to allow for expansion due to altitude changes.
- f. Lithium batteries must remain installed in electronic devices. Spare batteries must be separated from other metallic objects by being packed in a sturdy plastic bag. Battery powered equipment must be packaged in a manner that prevents accidental activation.
- g. Propane must be packaged in approved cylinders. The propane cylinders must be transported in approved netting in accordance with the manufacturer's instructions.
- h. Division 4.2 materials must be transported in sealed containers to prevent any spontaneous combustion.
- i. The requirements for d are waived.
- j. Each outer packaging must be labeled for the dangerous goods contained within.
- k. Materials transported by external load must comply with the safety controls specified in this section.
- l. Alternative notification procedures for the pilot in command may be established subject to the written approval of the cognizant State authority.

8. SAFETY CONTROL MEASURES FOR CLASS 1:

- a. PACKAGING - As prescribed in ICAO TI or further packaged as required by State regulations.
- b. Authorized explosives. Division 1.1D explosives that are forbidden for shipment by air in ICAO TI may be accepted and transported in external loads only subject to the conditions stated herein.
- e. Maximum weight. Not more than 500 kilograms total net weight of explosives may be carried in, on, or suspended from the rotorcraft.
- g. Advance Notice of State authority. The operator of the rotorcraft must notify the State flight will originate. This notification must be given at least 72 hours in advance of plans to operate under the exemption, unless prior arrangements have been made with the cognizant State authority. The notification must include the point of departure, intermediate stops, destination(s), and a loading and departure schedule. If a flight schedule deviates more than four hours from the originally scheduled departure time, the operator of the rotorcraft must notify the cognizant State authority. Alternate notification procedures may be established subject to the written approval of the cognizant State authority.
- h. Advance permission from aerodrome. If an aerodrome is used, the operator of the rotorcraft must have advance permission from the owner or operator of each manned aerodrome where the material is to be loaded or unloaded or where rotorcraft is to land while the materials are on board. When the destination is changed after departure because of weather or other unforeseen circumstances, permission from the owner or operator of the alternate aerodrome must be obtained as soon as practicable.
- i. Flight plan. The operator of the rotorcraft must include the following information in the "Remarks" section of each flight plan when the provisions of this exemption are exercised:
 - (1) The classification of each hazardous material aboard, attached to or suspended from the rotorcraft.
 - (2) The net weight of each class of hazardous material aboard the rotorcraft.
 - (3) This requirement does not apply to operations where a flight plan cannot be filed (e.g. operating in remote areas or uncontrolled airspace)
- j. Loading and unloading. Loading and unloading operations under this exemption must comply with the following:
 - (1) The loading and unloading of the rotorcraft must be conducted at a safe distance from heavily populated areas and from any place of human abode or assembly. However, at an aerodrome where the aerodrome owner or operator or authorized representative thereof has designated a specific location for loading or unloading, the explosives may not be loaded or unloaded at any other location.

- (2) During loading or unloading, no person may smoke or carry a lighted cigarette, cigar or pipe, or operate any device capable of causing an open flame or spark within 50 feet of the rotorcraft.
 - (3) No fueling operations of the rotorcraft may be conducted during loading and unloading of the explosives.
 - (4) A static discharge procedure must be implemented for Class 1 materials.
- k. Requirements during operation of rotorcraft. Operation of the rotorcraft during takeoff, en route, and landing must be conducted at a safe distance from heavily populated areas.
- (1) Before movement of the rotorcraft prior to take-off, in an aerodrome traffic area, the pilot of the rotorcraft must notify the control tower of the class(es) of explosive(s)(including ammunition) on board.
 - (2) The pilot of the rotorcraft, prior to entering an aerodrome traffic area, must notify the control tower of the amount and class of explosives on board and request this information be relayed to the appropriate aerodrome officials. For aerodromes without control towers, this call must be made to the Flight Service Station nearest the aerodrome of intended landing.
 - (3) When under radar control during the approach and landing phase, the pilot must request appropriate vectors so as to avoid heavily populated areas.
 - (4) Whenever explosives are on board, attached to or suspended from the rotorcraft, the pilot must ensure that no person on the rotorcraft may smoke, or carry a lighted cigarette, cigar, or pipe, or operate any device capable of causing an open flame or spark.
- l. Pilot requirements. The operator of the rotorcraft must ensure the following with respect to pilots of rotorcraft operating under this exemption:
- (1) A minimum of two pilots is required aboard any multi-engine rotorcraft carrying explosives under this exemption.
 - (2) Each pilot must be provided written instructions outlining any conditions and limitations applicable at each aerodrome of intended use. The name of the official(s) granting the advance permission required by paragraph (g) above must be included in these instructions, except when a landing permit has been granted by an agency of the Department of Defense for landing at a military installation.
 - (3) Each pilot of an rotorcraft being operated under this exemption must have received formal training on the requirements of ICAO TI that are applicable to his duties and be thoroughly familiar with the specific requirements of this exemption.
- m. Attendance of explosives. Division 1.1 explosives must be attended at all times they are in the possession of the operator unless placed in an explosive storage magazine that is approved by the Federal, State or local authority or at a location on a military installation

designated by appropriate military authorities. All persons accompanying Class 1 explosives must be State Licensed Employees.

- n. A copy of the required security plan must be made available to any State inspector upon request.

9. SPECIAL PROVISIONS.

- a. The rotorcraft operator must maintain permanent records of each flight during which explosives are carried under the authority of this exemption. This record must be made available at its principal business office to representatives of the State. The record for each flight must include:

- (1) Name of the shipper(s).
- (2) Name of the consignee(s).
- (3) Origin aerodrome(s).
- (4) En route aerodrome(s).
- (5) Destination aerodrome.
- (6) Shipping name and class of each explosive.
- (7) Net weight of each explosive.
- (8) Name of each pilot and any other person aboard the rotorcraft.
- (9) Registration number of the rotorcraft.
- (10) Name of the individual representing the owner or operator of each manned aerodrome who granted advance permission for the rotorcraft to land or take-off while it was being operated under this exemption.

The record required by this paragraph must be maintained as required in our mitigation plan.

- b. This Exemption does not grant the authority to use foreign controlled airspace or aerodromes outside the State of approval.
- d. MARKING – The marking requirements of ICAO TI are waived.
- e. This Exemption does not waive any State operating regulation or the need to obtain other required State authorizations.

10. MODES OF TRANSPORTATION AUTHORIZED: Rotorcraft External Load Operations.

11. **OPERATIONAL REQUIREMENTS:** A current copy of this exemption must be carried aboard each rotorcraft used to transport materials covered by this exemption.
 - a. Authorized rotorcraft. Rotorcraft used under this exemption must be authorized as part of a State Operating Certificate.
 - b. Operations manual. Operations must be conducted in accordance with conditions and limitations specified in the certificate holder's State approved Rotorcraft Load Combination Flight Manual (RLCFM).
 - c. Authorized persons aboard rotorcraft. No person may be carried other than a required flight crewmember, a State inspector, the shipper or consignee of the material or a representative of the shipper or consignee so designated in writing, or person necessary for handling the material.

12. **REPORTING REQUIREMENTS:** Shipments or operations conducted under this exemption are subject to the Dangerous goods Accident Reporting requirements specified in ICAO TI. In addition, the grantee(s) of this exemption must notify the State authority for Dangerous goods Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this exemption.

13. **COMPLIANCE:** Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by State transportation laws:
 - o All terms and conditions prescribed in this exemption and the Dangerous goods Regulations, ICAO TI.
 - o Persons operating under the terms of this exemption must comply with the security plan requirement in ICAO TI.
 - o Registration required by State authorities when applicable.

Each employee who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by ICAO TI.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

Issued in (State Authority)

Address all inquiries to: State Authority for Dangerous goods Safety.

— END —