

SECTION 5

Contingency Plan Decision Support Software

5 CONTINGENCY PLAN DECISION SUPPORT SOFTWARE

AMSA holds copies of various software programs that can provide assistance to MPCs and ICs involved in operations under ChemPlan. Full details of the software and its capabilities can be obtained from EPR, but brief details are as follows:

Software	Purpose	Information	Remarks
ALOHA (Areal Locations of Hazardous Atmospheres)	Chemical plume modelling software.	Allows the user to model the behaviour of a chemical and the "footprint" of a toxic gas plume escaping from a vessel, tank or other storage container under the influence of wind and other meteorological conditions. The dose and concentration level over time for the escaping chemical can be predicted at any point downwind eg. indoor and outdoor, in a building, at certain heights, etc.	Developed by the US National Oceanic and Atmospheric Administration (NOAA), Hazardous Materials Response and Assessment Division and the US Environmental Protection Agency (EPA). Requires trained operators.
CHRIS (Chemical Hazard Response Information System)	Information needed for decision-making by personnel during emergencies involving hazardous materials.	A variety of chemical information, hazard assessment information and response guides.	Developed for the US Coast Guard.
IMDG Code (Computerised International Maritime Dangerous Goods Code)	Information on the safe transport, handling and stowage of packaged dangerous goods by sea.	Classification, documentation, storage, segregation, packing, Marking, labelling and placarding of packaged dangerous goods. UN Codes Properties of the substances GESAMP Ratings Class Packaging Group Fire Precautions Emergency Schedules for Ships Carrying Dangerous Goods (EmS) Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) Code of Safe Practice for Solid Bulk Cargoes (BC Code) Reporting Procedures under SOLAS 74 and MARPOL 73/78 IMO/ILO Guidelines for Packing Cargo in Freight Containers or Vehicles Recommendations on the Safe Use of Pesticides in Ships International Nuclear Fuels Code.	Developed by IMO

Software	Purpose	Information	Remarks
MCIS (Milbros Chemical Information System)	Up-to-date source of information on the safe transportation and handling of liquid bulk chemicals.	<ol style="list-style-type: none"> 1. chemical product name 2. description 3. formula 4. synonyms and trade names 5. UN number 6. CHRIS code (US Coast Guard) 7. IMDG classification 8. IMO regulations that apply 9. various MARPOL information 10. physical data 11. cargo temperature & heating requirements 12. Threshold Limit Value (TLV) levels 13. reactivity of the chemical 14. stability and use of stabilisers/ inhibitors 15. cargo handling instructions 16. tank cleaning requirements 17. MARPOL regulations related to cleaning/loading 18. emergency procedures in case of fire, spillage, human exposure 19. loading/transfer equipment requirements including equipment suitability. 20. pollution rankings and details based on GESAMP ratings. 	Developed by Milbros Shipping AS. Originally designed for chemical tanker operators.
MOSES (Marine Oil Spill Equipment System)	Computer based database, of pollution control equipment.	Type, quantity, location, status and availability of equipment	Developed by AMSA. Copies of MOSES outputs are also available in State/NT Plans or directly from EPR
OSRA (Oil Spill Response Atlas)	Identifies and describes the coastal resources in an area. Provides information on access features of an area. Can contain information on the response options such as boom deployment and dispersant use, and logistical problems.	Base Map Shoreline Biological Resources Wetlands, Estuaries & Rivers Human Resources Logistical Use Resources / Infrastructure Remote Sensing/Aerial Photography Incident Details/Spill Trajectory Sensitivity Ratings/Response Options.	Developed by States/ NT under a National Plan-funded ongoing program. OSRA is a Geographic Information System (GIS), PC based resource for use, with real-time data from the Bureau of Meteorology (BOM), by field scientific and environmental staff during chemical or oil spill incidents and exercises.

Software	Purpose	Information	Remarks
OSTM (Oil Spill Trajectory Modelling)	Provides modelling of bulk liquid or water movement in the continental shelf region of Australia. Can also predict the extent of certain spills.	Speed of movement, weathering and spreading characteristics of the oil under the influence of prevailing currents and weather conditions.	Developed for AMSA. Can also be applied (with caution) to certain chemical spills. Periodic updates of the prevailing winds and confirmed observations of the movement of the spill are needed to confirm accuracy. Bureau of Meteorology forecasts are needed to maintain currency.
ChemAlert	ChemAlert provides definable reports including: ChemAlert Reports & Labels; Manufacturers' Scanned MSDS; Risk Assessment Module; Hazardous Substances Registers; Dangerous Goods Registers; and Stock Management System & Reporting.	Features of ChemAlert include: Health hazards & precautions for use, safe handling procedures, storage & transport requirements, environmental fate, and emergency and first aid advice.	Developed by Risk Management Technologies, United States of America. Access by contacting Fire Services in each State/NT.
ChemData	An extensive database of hazardous materials, providing 'first response' information for firefighters and other emergency services and designed for use by communications personnel rather than technical specialists.	Provides information on personal protection, hazards, precautions, environmental protection priorities, firefighting procedures, decontamination, and first aid for a very broad range of hazardous materials. Also includes the IMDG Emergency Schedules (EmS).	Developed and maintained by the National Chemical Emergency Centre, Harwell, United Kingdom. Practically all Australian Fire Services use a modified Australian edition designed to provide information for the HAZMAT Action Guide form used by Fire Services for communication of response advice by radio.

A list of website links for chemical databases and information follows:

Organisation	Website
Computer-Aided Management of Emergency Operations (CAMEO) - National Oceanic and Atmospheric Administration (NOAA)	response.restoration.noaa.gov/cameo/links.html
Material Safety Data Sheets	www.msds.com.au/
Guiding Principles for Chemical Accident Prevention, Preparedness and Response	http://www2.oecd.org/guidingprinciples/index.asp
Aids for Chemical Accident Responders and Planners - NOAA	response.restoration.noaa.gov/chemaids.html
US Office of Hazardous Materials	hazmat.dot.gov/
US National Safety Council – chemical hazards	www.crossroads.nsc.org/index.cfm
Agency For Toxic Substances & Disease Register -Hazardous Substance Release and Health Effects Database	www.atsdr.cdc.gov/hazdat.html
Toxicological Network – data base & fact sheets	ace.ace.orst.edu/info/extoxnet/
Dangerous Goods Information – International Air Transport Association	http://www.iata.org/whatwedo/dangerous_goods1
US Chemical Emergency Preparedness and Prevention Officer	http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/index.html

List of Reference Material and Publications

- Emergency Response Guidebook: Guidebook for first response to hazardous materials incidents (2000), US Department of Transportation <http://hazmat.dot.gov/pubs/erg2004/gydebook.htm>
- Dangerous Goods – Initial Emergency Response Guide: Australian/New Zealand Handbook (1996), Standards Australia/Standards New Zealand (ISBN: 0 7337 0465 4)
- Guide to the Compatibility of Chemical Cargoes from V5 IMDG Code 2000 edition.
- Manual on Chemical Pollution Section 1: Problem assessment and response arrangements 1999 (IMO-630E, ISBN 92-801-6096-6)2 prepared by IMO.
- Manual on Chemical Pollution Section 2: Search and Recovery of Packaged Goods Lost at Sea (IMO-633E)