

NATIONAL INTERAGENCY SUPPORT CACHE SYSTEM OVERVIEW FOR IBM HELPDESK TEAM – 5/19/2010

Forest Service, Bureau of Land Management and other agency managers require an adequate source of supplies and equipment; the ability to move these items quickly and cost-effectively to the scene of a wildland fires or other incidents; and to have them returned at the conclusion of the incident with a continuous record of custody and accountability. To meet this need, a network of “fire caches” has been established under the authority of the National Fire Equipment System (NFES) of the National Wildfire Coordinating Group (NWCG). The national cache system consistently provides excellent support to incidents – even during years of record-breaking fire activity and demand.

In addition to wildland fire suppression, the national cache system supports a variety of other activities including: prescribed fire operations, fire/incident training, agency law enforcement operations, special projects, special planned events, local natural disasters affecting agency lands, presidentially-declared disaster responses (such as hurricanes, flooding, ice storms, terrorist acts, etc.), international fire (and non-fire) assistance.

The national cache system follows standard operating procedures outlined in an NFES Cache Operations Management Plan, the National Interagency Mobilization Guide and local operating guides. The NFES Committee maintains standards for supply and equipment quality and configuration. These standards ensure that supplies can move from one cache to another and personnel can be temporarily assigned at caches with increased workload with no loss in efficiency or effectiveness.

UNIQUE ASPECTS OF THE CACHE SYSTEM

In the private sector, “just in time” supply chain management is the norm for minimizing overhead costs and ensuring timely delivery of materials, and many see similarities between the private sector and the cache business. In contrast to private organizations, federal and state agencies accept the costs of maintaining relatively large stocks of on-hand fire-fighting supplies and equipment in order to be able to respond quickly to often unpredictable emergency incident requirements.

Military supply logistics is often used as a similar model to cache business, however the buildup to military deployment is generally a relatively long process compared to mobilizing to wildfires. It is not uncommon for an incident management organization several thousand people strong, with all supporting infrastructure (and supplies) to be in place within 24 hours of dispatch to a wildland fire or non-fire incident.

It is estimated that the General Services Administration (GSA) and its contract suppliers provide approximately 60% of the items (and 90% of the volume) stocked in cache inventories. The remaining 40% are supplied by private vendors and the Defense Logistics Agency (DLA).

Since most “customers” of a cache are temporary fire/incident management teams, caches must have the capability to deliver supplies to remote temporary incident bases without any predetermined “shipping address.” Deliveries are made by contracted delivery services, agency vehicles/drivers, agency (or contracted) aircraft, and sometimes by boat or pack string (e.g. horse/mule).

Unlike most commercial supply chain management operations, the majority of used and unused items are returned to the cache system from incidents as soon as they are no longer needed for incident use. The cache system quickly refurbishes returned items (either in-house or by contracted vendors) and returns the items to the shelf for reissue. In this way, most supply and equipment items are reused numerous times, resulting in a more cost-effective operation for tax payers.

TYPICAL INVENTORY

The inventory of a typical cache includes: fire hand tools; fire pumps, hoses, nozzles, connectors and water-handling devices; chainsaw kits; medical kits; kits used in support of aerial fire suppression operations; fire resistant clothing, fire shelters and other personal protective equipment; water containers; rations; communications equipment; portable shelters; various specialty kits and a variety of other items.

Some caches carry a specialized inventory or unique items that are in demand only in that area of the country, in addition to the more common NFES items. The Great Basin Cache includes a national inventory of communications and remote automated weather sensing equipment. The Great Basin Cache also maintains fire training publications items (called Publication Management System or “PMS”) for general sale to government and non-government organizations and individuals. The Northeast Cache maintains the national symbols program (e.g. Smokey Bear) items for sale, but those are not in the ICBS system.

CACHE SYSTEM ORGANIZATION

The national cache system can be characterized as a three-tiered network of supply and equipment warehouse facilities with responsibility to support incident and non-incident customers according to national, geographic area and local standards, procedures and agreements. Each level of cache is responsible to support agency customers in its defined service area.

The three cache levels are:

- National Caches (including any Satellite Cache locations and temporary Remote Caches)
- Local Area Caches
- Local/Initial Attack Caches

Eleven National Caches are hosted by the Forest Service (USFS) and Bureau of Land Management (BLM). One National Cache in the Pacific Northwest has two associated Satellite Cache locations each of which covers a portion of the geographic area. Remote Caches are temporary caches that are established on an as-needed basis only during extraordinary wildfire activity as an extension of a National Cache. Remote Caches are typically set up close to the scene of multiple fires in order to decrease shipping distance and increase efficiency. Remote Caches are rarely needed. No more than five have been established in a single year. The inventories of National, Satellite and Remote Caches conform to NFES standards.

Local Area Caches make up the second cache tier and are hosted by various federal and state wildland agencies. They are capable of supporting a number of units (of various agencies) within their established service area. This support can be for response to multiple small “initial attack” fires, or extended attack of multiple large fires. There are probably about twenty Local Area Caches in the U.S. and their inventory conforms to NFES standards.

Local Caches (also called Initial Attack Caches) make up the third cache tier. A Local/Initial Attack Cache provides support on its host unit (e.g. national forest, BLM district, state district, etc.) and sometimes limited support to neighboring units. These facilities are mostly small single-agency fire warehouses that do not typically exchange supplies with other caches. Their inventory may or may not meet NFES standards.

TARGETED USER COMMUNITY

The cache community at large is a group of highly skilled individuals with a history of outstanding incident support. They are committed to ensuring a highly successful re-engineering of the ICBS system, as evidenced by their significant involvement in the ICBS-R Project Team.

The eleven National Caches (and their two Satellite Caches) represent the primary current ICBS user community. The Local Area Caches represent a secondary user community. By mid-2010, two Local Area Caches will be using the re-engineered ICBS.

National, Satellite, Remote and Local Area Caches are within the scope of the ICBS-R Project. Local Caches are outside the scope of the ICBS-R Project.

CACHE PROCESSES

The following is a high-level description of the processes performed at most caches:

- **Inventory management.** This includes: maintaining an inventory between minimum and maximum stocking levels, monitoring the stocking level of “critical items” (those most often in demand nationally), adding new items and storage locations, determining standard costs and prices for items on an annual basis, making inventory adjustments, disposing unserviceable items, building kits, tracking individual sensitive/trackable items (e.g. radios, chainsaws, pumps, etc.), conducting an agency-required annual cache inventory, etc.
- **Receiving.** This term refers to accepting new items from suppliers and adding them to the cache inventory. Suppliers include the General Services Administration (GSA), GSA vendors, Defense Logistics Agency (DLA) and private vendors.
- **Returns.** This means accepting used or unused items back from incidents and from other cache customers. These items are then refurbished and added to the cache inventory or they are disposed of
- **Refurbishment.** Rehabilitating used items to NFES standards is performed in varying degrees at all National Caches and some Local Area Caches. Some caches specialize in refurbishing certain types of items (e.g. the Northwest Area Cache in Redmond, Oregon cleans, tests, repairs and repackages fire hose for several of the other National Caches and the Northern Rockies Cache in Missoula, Montana maintains large national medical kits for the other caches).
- **Disposal.** Agency regulations determine how items that can not be refurbished to NFES standards are removed from the cache system. Most items are disposed of (sometimes called “surveyed”) while others can become surplus or excess property and available for sale or use by other agencies.
- **Processing resource orders for supplies or equipment.** Caches receive these orders by fax, telephone, e-mail (e.g. Excel spreadsheet resource order format), messenger, or via a printout of an automated resource order form from the Resource Order and Status System (ROSS). Orders are filled by “issuing” items in the quantity ordered to the incident. An interface with ROSS will enable caches to receive new orders electronically within ICBS beginning in the Fall of 2010.
- **Processing other (non-resource) orders for supplies or equipment.** Caches receive these orders by fax, telephone, e-mail, messenger or USPS. These orders are received in various electronic or hard copy formats: purchase order forms, locally-generated forms, etc. These orders are filled by issuing (and in some cases selling) items in the quantity ordered to the customer.
- **Issuing.** This involves pulling (or picking) items from the cache inventory and preparing them to be sent to incidents or non-incident customers to fill an order that was placed with the cache.
- **Shipping.** This involves arranging, documenting and communicating shipment of items. Shipments are made by agency vehicles and drivers arranged by the cache, arranged by agency dispatch centers, or made by commercial vendors. Shipment can be by ground, air or parcel services, and often includes hazardous materials handling, labeling and notification.
- **Reserving.** This means setting aside quantities of certain items in anticipation of increasing incident need or perhaps for a planned special event.

- Back-ordering. Just like in the commercial sector, this refers to ordering items from a supplier specifically to fill a customer's existing order at a later time. Many caches do not back-order and instead provide what they have on hand and "kill" the remainder of the order with the expectation that an incident will reassess their need and reorder what they need at a later time. This is called the "fill or kill" process.
- Incident Transferring. This refers to documenting the movement or reassignment of items between incidents or caches.
- Ordering from suppliers. This involves placing requisitions, purchase orders or credit card orders with suppliers to increase cache inventory.
- Cache-to-cache ordering. This involves checking other caches' inventories and then placing a request with other caches for supply restock. It can also be done to fill all or part of a resource order that was placed with the cache.
- Queries. This refers to producing statistical information on current and historical cache inventory levels/cache activities; and conducting trend analyses to determine optimum inventory levels.
- Reports. This involves producing reports for internal or external use (e.g. "Fire Loss/Use" reports that are provided to host agency units following large wildfires to identify excessive waste and loss of items by incident personnel). Currently only standard reporting is offered. Ad hoc/custom reporting will be enabled only after the ICBS-R Team conducts a thorough system performance analysis to ensure that opening up that capability doesn't adversely affect the system.

Not all of these processes are conducted at every cache. National Caches typically perform almost all of the above processes; and Satellite, Remote and Local Area Caches typically perform fewer of these processes (e.g. they might send some of their returned items to a National Cache for refurbishment rather than doing it onsite).

CACHE INTERACTION

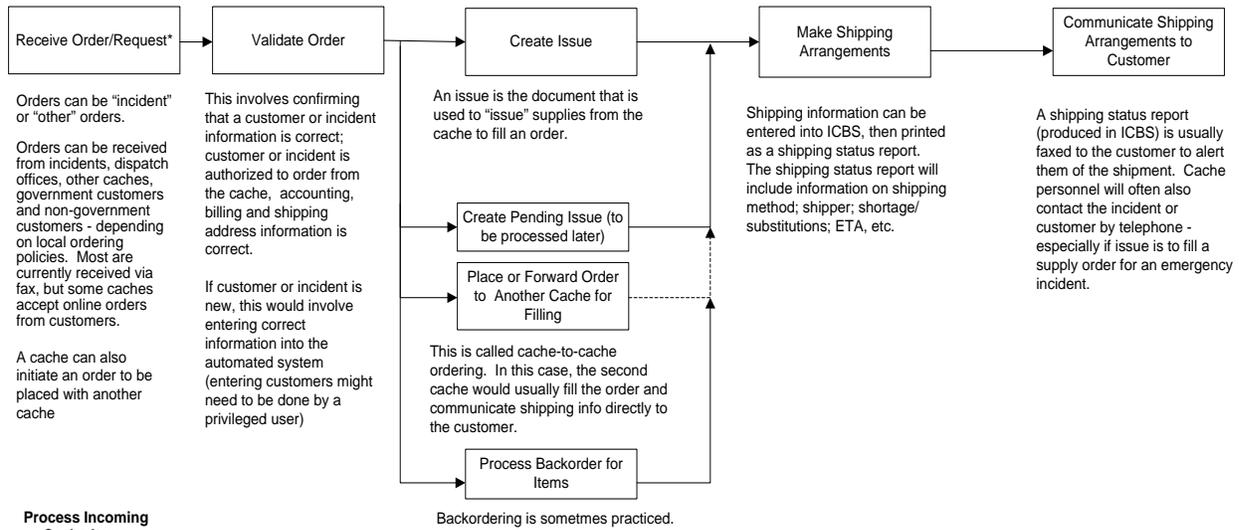
The following is a description of how caches interact with each other, beginning with the lowest cache level:

- Local/Initial Attack Caches are seldom equipped to provide support to "extended attack" of individual fires or to multiple fires, and will generally turn to a Local Area or National Cache to restock its inventory or to provide direct incident support and to replenish the inventory of the Local Cache. In rare cases a Local Cache will order supplies from an adjacent Local Cache to support incident needs.
- Local Area Caches are equipped to provide extended attack and multiple fire support, and to provide supplies to units of various agencies in its area. When local area incident needs exceed a Local Area Cache's capability, it will obtain help from its National Cache for direct incident support and to replenish the Local Area Cache inventory.
- National Caches routinely order supply items from Local Area Caches in their area when geographic area exceeds the capability of the National Cache. National Caches will also request that Local Area Caches provide supplies to help meet nationwide demand. National Cache managers lack the authority to direct Local Area Caches to send supply items, so this is a negotiated process and is based on the Local Area Cache manager's "comfort level" with emptying his/her shelves and relying on other caches for support if local incident needs exceed the cache's ability for support.
- National Caches routinely exercise their authority to order supplies directly from other National Caches, but likewise, this is a request rather than a command.

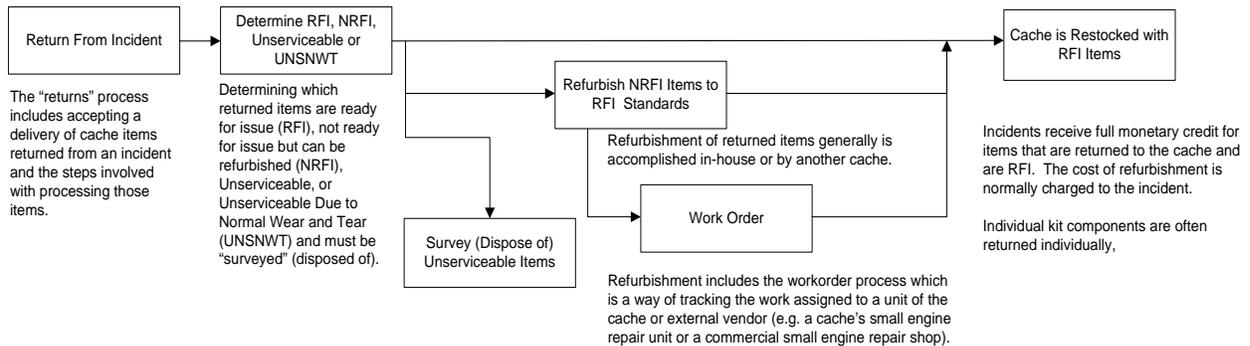
- When nationwide incident (fire and non-fire) activity reaches a pre-determined level, a National Cache Coordinator position is activated at the National Interagency Coordination Center (NICC) in Boise, Idaho. The person in this position monitors incident activity, coordinates the flow of cache orders, monitors the inventory levels of critical items and prioritizes cache restock among the National Caches.

HIGH LEVEL FLOWCHART OF CACHE PROCESSES

Process Order Request



Process Incoming Cache Items



Other Cache Processes

Receiving

This involves reconciling delivered items with purchase/shipping documents; using ICBS to accept a receipt; and physically putting the items on the shelf in the cache.

Items may be received from GSA, vendors or from other caches.

Reserving

This involves designating a quantity of specific items to be set aside (not available for issue) as a contingency for unplanned incidents, or for an upcoming planned incident.

Transferring

This involves using ICBS to document changing custody of issued items from one incident to another ("incident-to-incident transfer") based on documentation received from the incident or field unit)

This also involves transferring items from one cache to another (cache-to-cache transfer)

Warehouse Activities

The most common example is moving items from one location in the cache to another.

Other activities include: maintaining an item catalog, assigning storage locations, maintaining an inventory of accountable items, maintaining an inventory of hazardous materials items, documenting item disposal, documenting inventory adjustments, documenting discrepancies in non-accountable items, identifying items and quantities available for redistribution to other caches, maintaining a national item repository

This also involves documenting kit contents, building up kits from items in existing inventory, breaking down kits into component items, and doing the same with cache items (not kits) that have components (e.g. a fire shelter comprised of a case, liner and shelter).

This includes changing information about a cache or cache item, changing accounting codes, documenting processes associated with the annual inventory, and resetting default values at the end of a calendar year.

Some of the above actions can only be performed by privileged ICBS users.

Procurement

This refers to documenting purchases of items to be added to the inventory. Methods of procurement can include purchase orders, requisitions to authorized government purchasing agents, credit card purchases, or other means.

Querying

This involves selecting a particular field in the application and searching the database for information related to that field.

Reporting

This involves selecting standard reports to be run against information in the database.