# Resource Request Module Design Document

## 1. Module Name & Description

\*\*Logistics Resource Request\*\* is the submodule within the Logistics section that enables personnel to create, track, manage, and fulfill requests for resources (personnel, equipment, supplies) during an incident. It streamlines the request-to-delivery workflow, ensuring timely provisioning and transparent status updates.

## 2. Primary Functions

* \*\*Request Creation:\*\* Capture details for new resource requests, including item, quantity, priority, justification, and required delivery time.
* \*\*Approval Workflow:\*\* Route requests through one or more approvers with options to \*\*Approve\*\*, \*\*Deny\*\*, or \*\*Return for Information\*\*.
* \*\*Assignment & Fulfillment:\*\* Allocate available resources, assign delivery teams, and track fulfillment status.
* \*\*Status Tracking:\*\* Provide real-time dashboards showing pending, approved, in-progress, and completed requests.
* \*\*Notifications & Alerts:\*\* Notify stakeholders of status changes, upcoming delivery windows, or issues.
* \*\*Form Integration:\*\* Automatically generate and print ICS 213-RR forms based on request data.
* \*\*Request Deletion:\*\* Enable users to delete resource requests from the system.
* \*\*Request Reactivation:\*\* Allow cancelled or denied requests to be reactivated, resetting their status to Submitted.

## 3. Submodules/Tools

* \*\*Request Form Builder:\*\* Guided UI for entering request details.
* \*\*Approval Panel:\*\* View, comment on, and action pending requests.
* \*\*Assignment Dashboard:\*\* Visual interface (list/map) for allocating resources and scheduling deliveries.
* \*\*Fulfillment Tracker:\*\* Timeline view showing each step from approval to delivery.
* \*\*Notification Center:\*\* Configurable alerts via in-app, email, or SMS.
* \*\*Report Generator:\*\* Export request logs or summaries in PDF/Excel.

## 4. Key Data Models

* \*\*ResourceRequest\*\* (id, mission\_id, requestor\_id, timestamp, item\_code, quantity, priority, justification, status, due\_datetime, notes)

- \*\*status (enum):\*\* Submitted, In Progress, Approved, Ordered, Fulfilled, Complete, Cancelled, Denied

* \*\*ApprovalRecord\*\* (id, request\_id, approver\_id, action, timestamp, comments)
* \*\*AssignmentRecord\*\* (id, request\_id, resource\_id, assigned\_to\_id, assigned\_datetime, eta, status)
* \*\*ResourceItem\*\* (item\_code, description, unit, available\_quantity, location)
* \*\*Notification\*\* (id, request\_id, recipient\_id, type, sent\_timestamp, read\_flag)

## 5. UI Components

* \*\*Global Search Box:\*\* An input field above the status board to quickly search requests by Request ID or keywords.
* \*\*Resource Requests Status Board:\*\* Full-width table where each row represents a resource request.

- \*\*Configurable Columns & Saved Views:\*\* Users can hide/show columns, reorder them, and save custom board views (e.g., "My Pending", "Urgent Only").

- \*\*Default Column Visibility:\*\* A sensible set of columns is shown by default; users may customize visibility via a column manager.

- \*\*Sorting & Filtering:\*\* Clickable column headers support ascending/descending sort; header dropdowns allow per-column filter criteria.

- \*\*Color-Coded Status Badges:\*\* Status values are displayed as colored badges (e.g., green for Complete, red for Denied/Cancelled, blue for In Progress) for quick scanning.

- \*\*Row Lock & Grey-Out:\*\* Rows with status \*\*Complete\*\*, \*\*Cancelled\*\*, or \*\*Denied\*\* are greyed out and locked, disabling selection and inline actions.

* \*\*New Request Button:\*\* Above the status board; opens the Resource Request Detail Window in modal or modeless mode.
* \*\*Inline Filters Bar:\*\* Quick-access buttons above the table for common filters (e.g., Emergency, Pending).
* \*\*Bulk Action Toolbar:\*\* Appears when rows are selected; actions include bulk approve, bulk assign, delete requests, or reactivate cancelled/denied requests. Each destructive action prompts a confirmation dialog to prevent accidental operations.
* \*\*Resource Request Detail Window:\*\*

- \*\*State Locking & Reactivation:\*\*

- If status is \*\*Complete\*\*, window is fully read-only: fields disabled and action toolbar hidden.

- If status is \*\*Cancelled\*\* or \*\*Denied\*\*, show a \*\*Reactivate\*\* button to reset status to Submitted.

- \*\*Overview Panel (Top):\*\* Read-only display of core fields, including multi-role approval timestamps:

- Request Number

- Requestor

- Date/Time Submitted

- Category

- Priority

- Current Status

- Due Date/Time

- Section Chief/Command Staff Approval: Approver Name, Date/Time

- RESL Approval: Approver Name, Date/Time

- Logistics Approval: Approver Name, Date/Time

- Finance Section Approval: Approver Name, Date/Time

- \*\*Action Toolbar:\*\* Buttons for \*\*Edit Request\*\*, \*\*Print ICS 213-RR\*\*, \*\*Add Attachment\*\* (hidden when locked).

- \*\*Tabbed Content (Bottom):\*\* Four tabs with conditional read-only behavior:

1. \*\*Order:\*\* A table with columns for Quantity, Kind, Type, Priority, Detailed Item Description, Requested Reporting Location, Date/Time, Order Number, ETA, and Cost. Read-only when status is ≥ Approved.

2. \*\*Approval:\*\* Chronological approval history with approver name, action (Approve/Deny/Return for Information), timestamp, and comments. Logistics approval can include Requisition/Purchase Order Number. Sequential rule: logistics and finance cannot approve until section chief approval.

3. \*\*Attachments:\*\* File upload gallery and notes area for spec sheets, photos, or quotes. Always editable unless request is Complete.

4. \*\*Supplier:\*\* A table listing supplier contacts with columns Name, Phone, Email, and Fax. Read-only when status is ≥ Fulfilled.

## 6. API Endpoints

| Method | Endpoint | Description |

| ------ | --------------------------------------- | --------------------------------------------------- |

| GET | `/api/logistics/requests` | List all resource requests |

| POST | `/api/logistics/requests` | Create a new request |

| GET | `/api/logistics/requests/{id}` | Retrieve details for a single request |

| PUT | `/api/logistics/requests/{id}` | Update request (status, notes) |

| GET | `/api/logistics/requests/{id}/approvals`| Get approval history for a request |

| POST | `/api/logistics/requests/{id}/approve` | Submit an approval action |

| POST | `/api/logistics/requests/{id}/assign` | Assign resources to a request |

| GET | `/api/logistics/items` | List available resource items |

| GET | `/api/logistics/notifications` | Fetch user notifications |

| GET | `/api/logistics/requests/stream` | Stream real-time request updates via Server-Sent Events |

## 7. Database Tables

* \*\*logistics\_resource\_requests\*\*
* \*\*logistics\_request\_approvals\*\*
* \*\*logistics\_request\_assignments\*\*
* \*\*logistics\_resource\_items\*\*
* \*\*logistics\_notifications\*\*

## 8. Inter-Module Connections

* \*\*Planning:\*\* Share resource requirements for forecasting.
* \*\*Operations:\*\* Notify field teams about deliveries; update status on completion.
* \*\*Finance/Admin:\*\* Send cost estimates; track expenditures per request.
* \*\*Personnel & Role Management:\*\* Lookup users (requestors, approvers, delivery teams).
* \*\*Forms & Documentation:\*\* Auto-populate ICS forms (213-RR, 220) from request data.

## 9. Special Features/Notes

* \*\*Configurable Priority Levels:\*\* e.g., Routine, Urgent, Emergency.
* \*\*Audit Trail:\*\* Full change log for each request, approval, and assignment; drill-down links show before/after data.
* \*\*Attachment Support:\*\* Upload photos, spec sheets, vendor quotes.
* \*\*Offline Mode:\*\* Mobile devices can sync offline and update when online.
* \*\*External API Integration:\*\* Optional connectors to inventory systems.
* \*\*Quick-Add Templates:\*\* Save common request profiles for reuse.
* \*\*Keyboard Shortcuts:\*\* Ctrl+N for New Request, Ctrl+P for Print ICS form, etc.
* \*\*Validation Flows:\*\* Before moving to Ordered, system validates that Section Chief, RESL, Logistics, and Finance approvals are present; missing approvals trigger an error dialog listing required steps.
* \*\*Column Views & Persistence:\*\* Saved board views persist per-user and across sessions.