CASE CONCEPT:

The Granite State Railroad (GSRR) case was developed to be a support vehicle in the study of information management. The concept requires **YOU, THE STUDENT, TO FUNCTION AS AN ENTRY LEVEL EMPLOYEE OF THE GSRR** and to provide the owner of the railroad with a possible solution to the existing information problem. This is to be accomplished by:

1. Reviewing and interpreting the case material presented.
2. Interrelating the GSRR case to:
   A. The text book.
   B. Lectures.
3. Asking questions during lectures and class room discussions.
4. Utilizing the accumulated data as the baseline to complete the appropriate sections of the Exercises.

I. BACKGROUND:

A. The Granite State Railroad (GSRR) is an independently owned and operated New Hampshire Corporation (it must be noted that the GSRR was founded, has operated and continues to expand without any state or federal funds or bank mortgages). Although the GSRR does interface with the Boston and Maine (B&M) Railroad and the Vermont Railroad (VTR) to exchange freight cars, on a daily basis with billing procedures performed monthly, it (the GSRR) is not part of either company. The GSRR does lease its trackage from the state of New Hampshire and is required to provide rail service to thirty-three industries along the leased rail right-of-way.
B. Currently, the GSRR employs a manual information system to locally track the location of rail cars and train movements. The primary concern of management is to continue to respond in a timely manner to customer requests for service. Failure to respond to customer requirements results in their using road transportation to forward and receive both raw materials and finished products. The result is a revenue loss. The railroad's second concern is the tracking of GSRR rail cars and determining the instructions to give to the train crews to move the cars to and from a customer's facilities.

C. Although not a major problem it must be noted that both the B&M and the VTR impose a per-diem procedure on the GSRR. Each major railroad company charges the GSRR $100.00 PER DAY for any-non GSRR freight car retained on GSRR trackage beyond a 3 day loading or off-loading period. During the past year 25% of the non-GSRR freight cars moved to GSRR customers have resulted in a per-diem charge.

II. INFORMATION USERS:
There are six information users that must be considered:

A. Customers - request railway cars be moved to their facility for loading; upon completion of loading the customer informs the GSRR that the car is ready to be shipped to an off-loading destination. This (off-loading) destination may or may not be within the GSRR trackage area of operations. For the purpose of this case study we will only consider source or destination customers located on GSRR trackage. Customers also notify the GSRR dispatcher when an incoming (loaded) car has been off-loaded and is no longer required.

B. Conductors - are functionally responsible for train movements. They direct the train engineer when to move the train, where to move the train, what cars to drop or pick up, and, they are responsible for insuring that customer requests are satisfied. To execute these tasks the conductor requires information set forth in two forms, BILLS OF LADING and TRAIN ORDERS. The conductor's office is the train caboose or "buggy", which is equipped with a radio to talk to the train engineer and a cellular telephone to talk to the system dispatcher and customers.

C. Train Engineers - physically operate or drive the train. While ultimately responsible for train, crew, cargo and public safety, engineers require authorization (TRAIN ORDERS) and operational guidance from the conductor to move a train from the GSRR yard to a customer's facility to deliver or pickup cars. The train engineer must insure that the number of cars and weight of the train does not exceed the pulling or stopping capability of the locomotive.
D. Granite State Railroad Dispatcher - determines what trains will operate and which cars will be dropped for loading and off-loading, interfaces with the B&M and VTR for movement to non-GSRR destinations, directs the moves to the GSRR yard, and determines how many trains operate on a given day. The dispatcher is the GSRR’s initial point of contact when local customers request rail car support. These requests are generally telephone calls or standing agreements to provide a specific service on specified dates/days. To respond to these requests, the dispatcher completes REQUESTS FOR SERVICES (RFS) forms. The information in the RFS is used by the dispatcher to produce BILLS OF LADING, TRAIN ORDERS, and YARD ORDERS. The dispatcher also produces EXCHANGE ORDERS for movement of cars to or from the B&M and VTR.

E. BOSTON & MAINE (B&M) and VERMONT RAILROAD (VTR) - are the major railroad companies that the GSRR interfaces with for the exchange of freight cars. Both the B&M and the VTR notify the GSRR of incoming cars destined for GSRR customers and receive cars for customers outside the GSRR area of influence. Both inbound and outbound movements are coordinated with the GSRR dispatcher in the form of EXCHANGE ORDERS. Loaded inbound cars destined for GSRR customers are charged a per-diem amount.

F. Yard Master/Yard Engineer - assembles the cars for the freight trains to be operated the next day and unassembles the trains when they returns to the yard. The Yard Master uses YARD ORDERS produced by the dispatcher to assemble or disassemble trains.

III. INFORMATION GENERATED:
The following information is required or generated by each information user:

A. CUSTOMERS:
1. Date and location rail car service is required.
2. Size car (40 ft or 50 ft) and the type of car requested (box car (b), flat car (f), gondola (g), hopper (h) or a covered hopper (ps2)).
3. Customers also inform the GSRR when they have finished loading or off-loading a car.
4. Destination of loaded freight cars.
5. Type load and special instructions if hazardous materials are being shipped.
B. CONDUCTORS:
1. Information relating to the customer's name and location.
2. Type, size and number of cars required.
3. Required pickup or delivery date.
4. Destination address if a car to be picked up is destined for another location for off-loading or being returned to the GSRR yard.
5. Billing procedure; open account, C.O.D. or prepayment.

C. TRAIN ENGINEERS:
1. Train identification (each train is assigned a specific I.D.; e.g., GSRR 901 - which is the company name plus the locomotive number).
2. Date of movement, number, type and weight of cars to be moved by train number.
3. Type of hazardous cargo being moved and car number being used to move this type of cargo.
4. Car sequence, the position of each car in the train when it leaves the GSRR yard.
5. Caboose (number) assigned to train.

D. DISPATCHER:
1. Customer account and service request data.
2. GSRR operational requirements relative to:
   a. Scheduled customers' requests.
   b. Inbound or outbound freight cars destined for the B&M or VTR.
   c. Cars to be picked up and returned to the GSRR yard or moved to another customers site.

E. YARD ENGINEERS:
1. Trains scheduled for a given day.
2. Cars to be moved by car type, number (called reporting marks by railroads), and destination.

F. MAJOR RAILROAD COMPANIES:
1. Date, number, type and reporting marks of cars being dispatched to the GSRR.
2. Date, number, type and reporting marks of cars being returned to B&M or VTR.
3. Number of days non-GSRR cars were retained on the GSRR system.
VI. SYSTEM DESCRIPTION:
The current system employed by the GSRR has been established over the past 10 years by trial and error. Forms are printed locally and are purchased when required. It is a manual process used to keep track of requests, freight cars and billing. The following is a thumb-nail sketch of how the paperwork and information flow:

1. Customers call the GSRR dispatcher and request service. During the phone conversation the dispatcher completes the necessary forms.

2. The dispatcher then notifies the yard master of the car/train movements scheduled for the next day. The conductors are given their next day's assignments upon returning from the current day's operations. The dispatcher provides the accounting department with a copy of pending requests.

3. The yard master physically assembles trains and then she notifies the dispatcher when each train is assembled.

4. The morning of the scheduled movements, the dispatcher meets with the engineers and conductors to discuss the day's movements and develops a time schedule. The dispatcher then calls the customer and provides an expected train arrival time.

5. The engineer checks his train for consumables (fuel, sand, and oil), performs a safety check, and pumps air through the system (to release the air brakes). When the conductor has received an all clear from the dispatcher and the train is ready, the train departs for the day's movements. After all setouts (deliveries) and pickups have been made the train returns to the GSRR, drops returning cars for the yard master, the locomotive is serviced and the conductor turns in his paper work to the dispatcher.

6. The dispatcher then completes his actions on the returned paper work and forwards the documents to the billing department. They in turn prepare accounting documents such as bill and monthly statements. The dispatcher then commences to determine the next day's operations to include new requests from customers, cars to be set out for movement to either the B&M or VTR and determines from B&M and VTR if there are cars to be moved to the GSRR the next day. The dispatcher also determines if there are non-GSRR cars at a customer's site that are on the 2nd day of the 3 day per-diem charge. If there are cars in this category he then discusses with the customer the need to pick up that car and return it to either the B&M or VTR, as appropriate.
V. ORGANIZATIONAL DATA:
The following material outlines the organization of the Granite State Railroad and provides the names of the individuals who occupy the given positions. It must be noted that since the GSRR is a small private organization, everyone including the president is a working employee.

GSRR
ORGANIZATION

PRESIDENT .................................. Mr. Bill Trueheart
VP OPERATIONS .......................... Mr. Pete Hess
DISPATCHER .............................. Mr. Bill Ernst
ASSISTANT DISPATCHERS .......................... Mr. Ron Cann & Mr. John Robinson
YARD MASTER .................................. Mr. Bruce Andrews
ENGINEERS .............................. Mr. BillTrueheart
................................................. Mr. Robert Troup
................................................. Mr. Ron Hrasna
................................................. Miss Stacie Lenson
YARD ENGINEER .......................... Miss Gretchen Trueheart
CONDUCTORS .......................... Mr. Steve Belforti
................................................. Mr. Glenn Mitchell
................................................. Mrs. Roxanne Rice
................................................. Miss Lucy Wing
DIRECTOR OF MAINTENANCE .. Mr. Robert Troup
ASSISTANT DIRECTOR ................. Mr. Robert Finch
ACCOUNTING DEPARTMENT .... Mrs. Lisa Mower
................................................. Miss Terranne Archer
................................................. Mr. Charles Archer
................................................. “YOUR NAME”

VI. FORMS:
Attached are copies of the forms currently generated or used by the GSRR. Please note that although the forms have been typed using a word processor, this action was done for your readability. The GSRR does not have a computer system and these forms should be considered as having been purchased from a local printer.
BILL OF LADING
GSRR
INBOUND/OUTBOUND
LOCAL MOVE

CUSTOMER: _________________________
LOCATIONS: _________________________
DESTINATION: _________________________
TYPE CAR: b f g PS2
NUMBER OF CARS: ______
REPORTING MARKS: CAR 1 ______
CAR 2 ______
CAR 3 ______
DATE SERVICE REQUIRED: ________________
SCHEDULED COMPLETION DATE: ________________
NUMBER OF DAYS CAR UTILIZED: LOADING/UNLOADING DAYS ______
DESTINATION DAYS ______

COST SCHEDULE: LOADING DAYS x $50.00 = $ __________
DESTINATION DAYS x $25.00 = $ __________
PER DIEM CHARGES = $ __________
TOTAL CHARGES = $ __________

ACCOUNTING DATA: ACCOUNT NUMBER: ________________
PAYMENT SCHEDULE: PREPAY: ________________
BILL: ________________

DISPATCHERS SIGNATURE: ________________
AUTHORIZATION DATE: ________________
CONDUCTORS SIGNATURE: ________________
SERVICE DATE: ________________
BILLING DEPARTMENT SIGNATURE: ________________ DATE: ________________
GSRR
REQUEST FOR SERVICES

CUSTOMER NAME:
LOCATION:
SERVICE REQUESTED
DELIVERY DATE:
PICK-UP DATE:

TYPE CAR: [b f g PS2]
NUMBER OF CARS:
ESTIMATED LOADING/OFF-LOADING TIME:
DAYS: _______ HOURS: _______
ESTIMATED NET WEIGHT:
DESTINATION: ON LINE:_________
OFF LINE:_________

TYPE CARGO:
FLAMMABLE:
EXPLOSIVE:
SPECIAL INSTRUCTIONS:

CUST [ ] SERVICE [ ]
GSRR
TRAIN ORDER
MOVEMENT DATE: 

TRAIN NUMBER:

ASSIGNED LOCOMOTIVE(S) NUMBERS: UNIT ONE

UNIT TWO

ASSIGNED CABOOSE NUMBER

START NUMBER OF CARS:

END NUMBER OF CARS:

REPORTING MARKS & DROP LOCATIONS:

<table>
<thead>
<tr>
<th>CAR</th>
<th>MARKS</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REPORTING MARKS & PICK-UP POINTS:

<table>
<thead>
<tr>
<th>CAR</th>
<th>MARKS</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DANGEROUS CARGO: 

CAR REPORTING MARKS

TYPE CAR

TYPE CARGO

SPECIAL INSTRUCTIONS

CAR DESTINATION
### GSRR
#### YARD ORDERS

**MAKE UP DATE:**

**TRAIN NUMBER:**

**NUMBER OF CARS:**

<table>
<thead>
<tr>
<th>CAR NUMBERS</th>
<th>REPORTING MARKS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL INSTRUCTIONS:**

---

[Handwritten note: Yard Orders]
EXCHANGE ORDER

1. EXCHANGE SYSTEM
   B&M  VTR
   INBOUND  OUTBOUND

2. CAR DATA:
   TYPE CAR
   CAR SIZE
   MARKINGS
   CAR NUMBER
   DESTINATION
   TYPE CARGO
   SPECIAL INSTRUCTIONS

3. MOVEMENT DATE:

4. PER-DIEM DATE

---

Form 5

MARKS:

---

Exchange File

---