

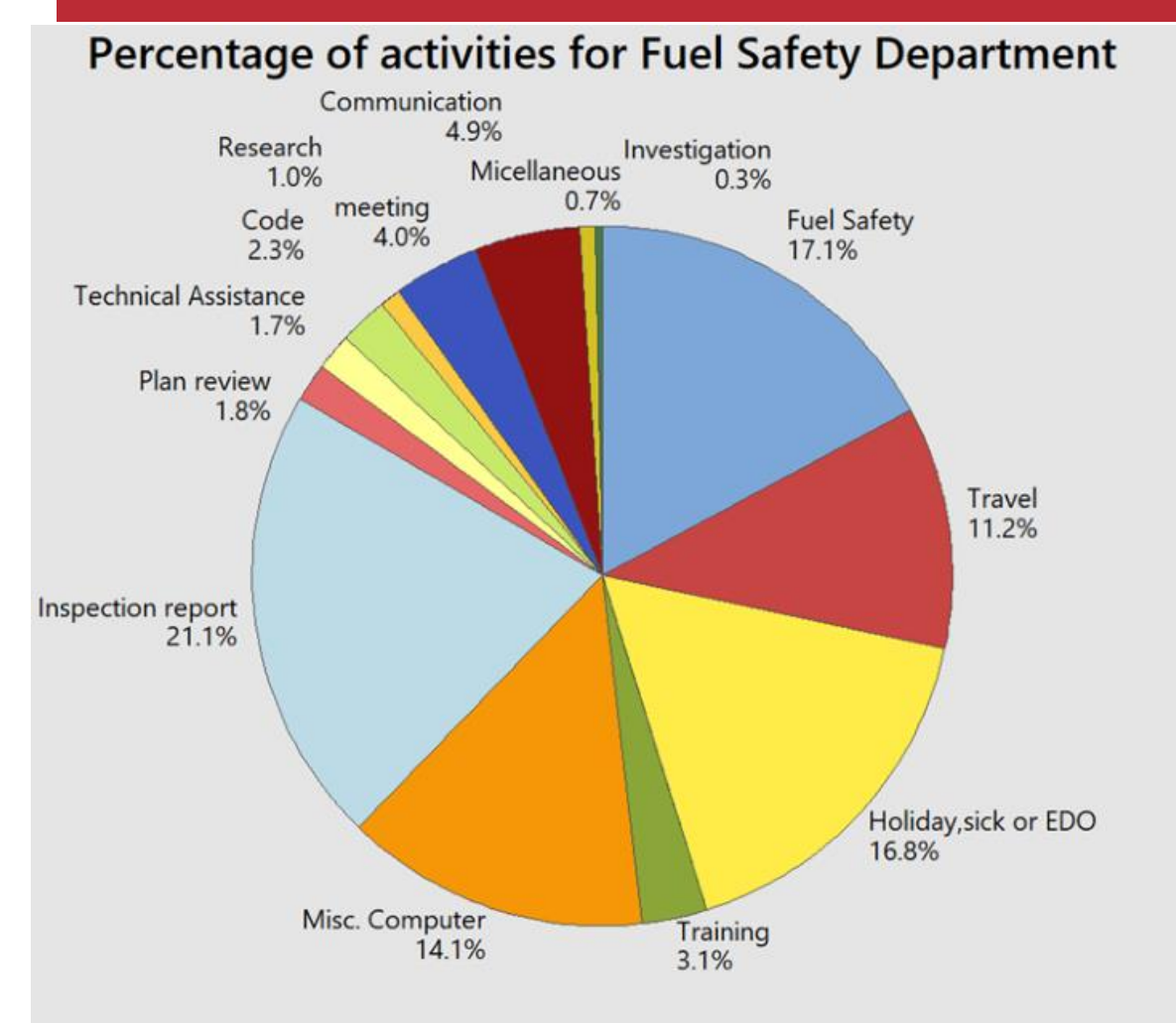
Project Background

- The Technical Safety Division is one of the divisions of Nova Scotia Labor and Advanced Education
- Technical Safety Division currently has three divisions: Boilers and Pressure Department (BPD), Elevators and Lifts Department (ELD), and Fuel Safety Department (FSD)
- Technical Safety does all the mechanical safety inspections in Nova Scotia
- Some jobs cannot be finished on time

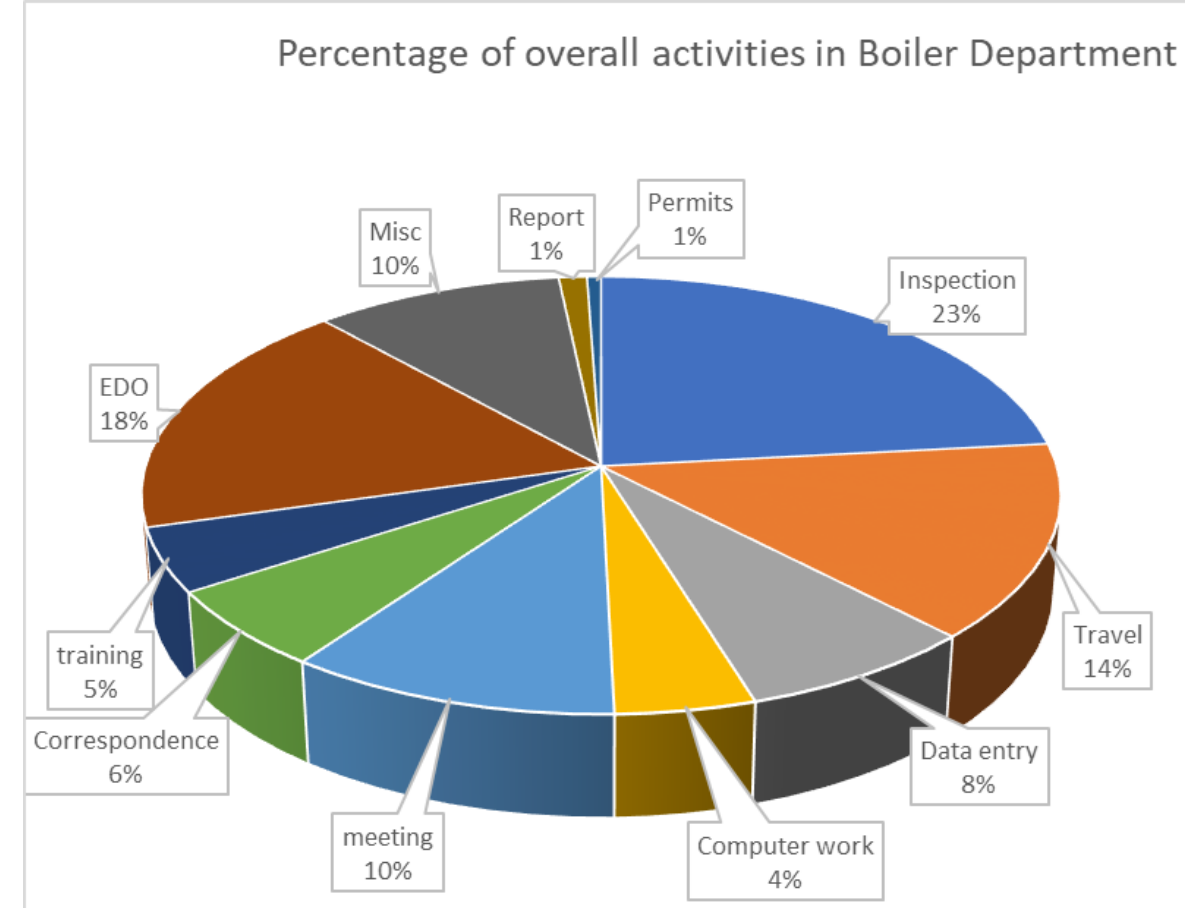
Scope of Work

- Data Analysis
- Scheduling Tool Development
- Workload Balance
- Workflow Improvement

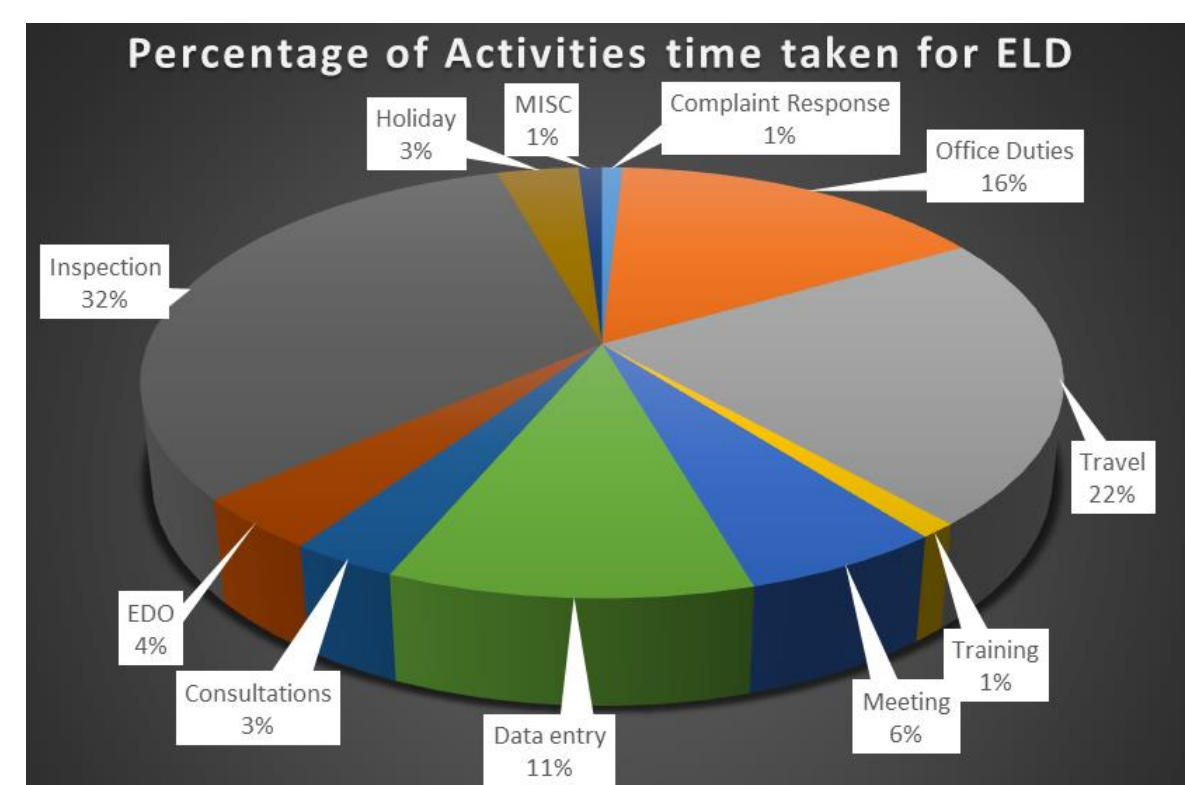
Data analysis



- Fuel Safety Department
 - Incomplete Data
 - Time spent work on paper
 - Able to finish required jobs and handle additional 35% jobs with current capacity and efficiency



- Boiler Pressure Department
 - Imbalanced workload
 - Able to handle 7299 inspections per year with current 9 inspectors.
 - Able to finish required jobs with current capacity and efficiency



- Elevator Lift Division
 - Unable to finish current jobs
 - Able to handle 1141 inspections per year with current 3 inspectors
 - Additional inspectors or innovation are necessary to meet the requirement

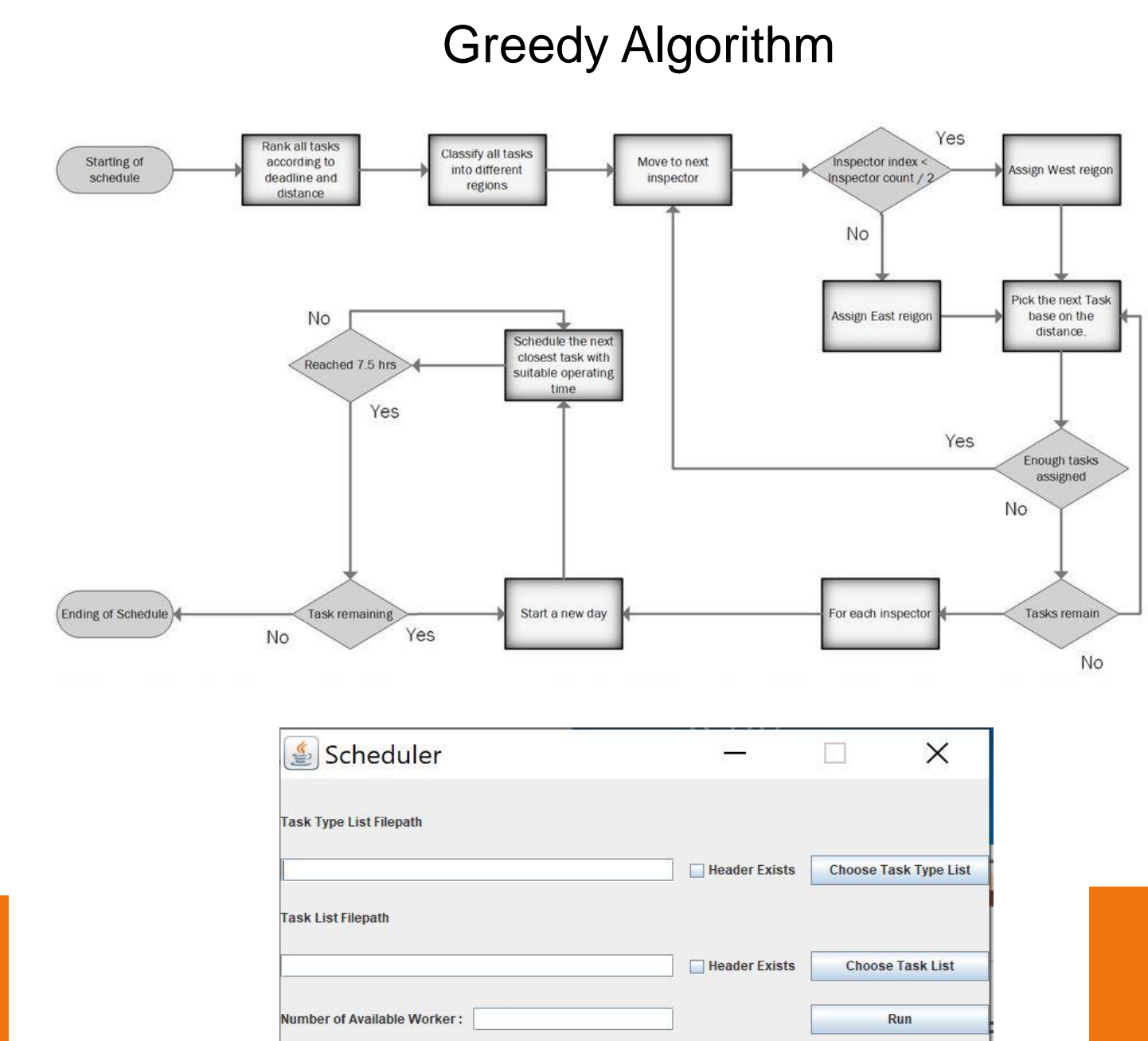
Scheduling Tool

Input

- Inspection information
 - NSIN number
 - Address
 - Coordinate
 - Inspection type
 - Deadline
- Inspection type and estimated time
- Inspector number



Scheduling Method

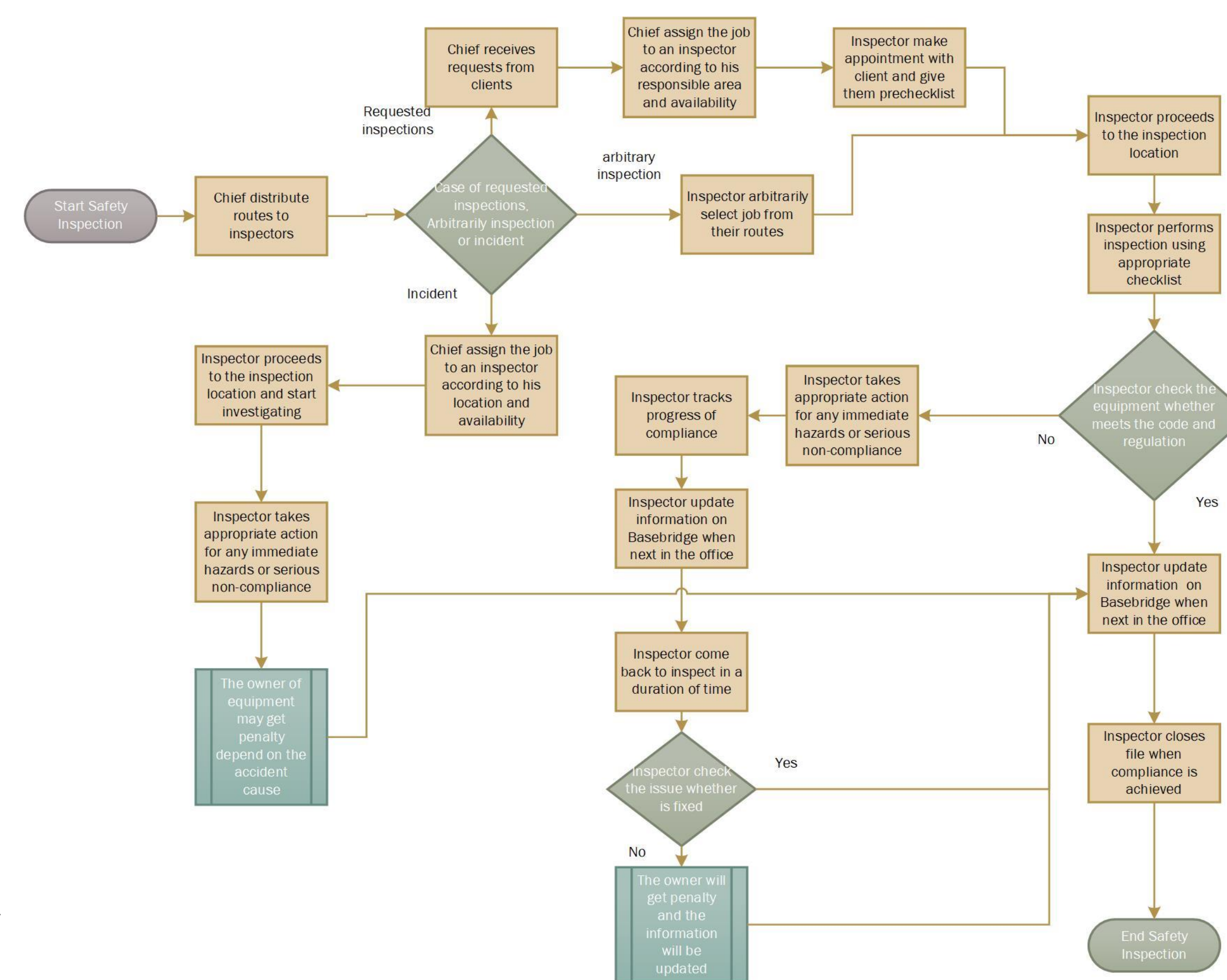


Output

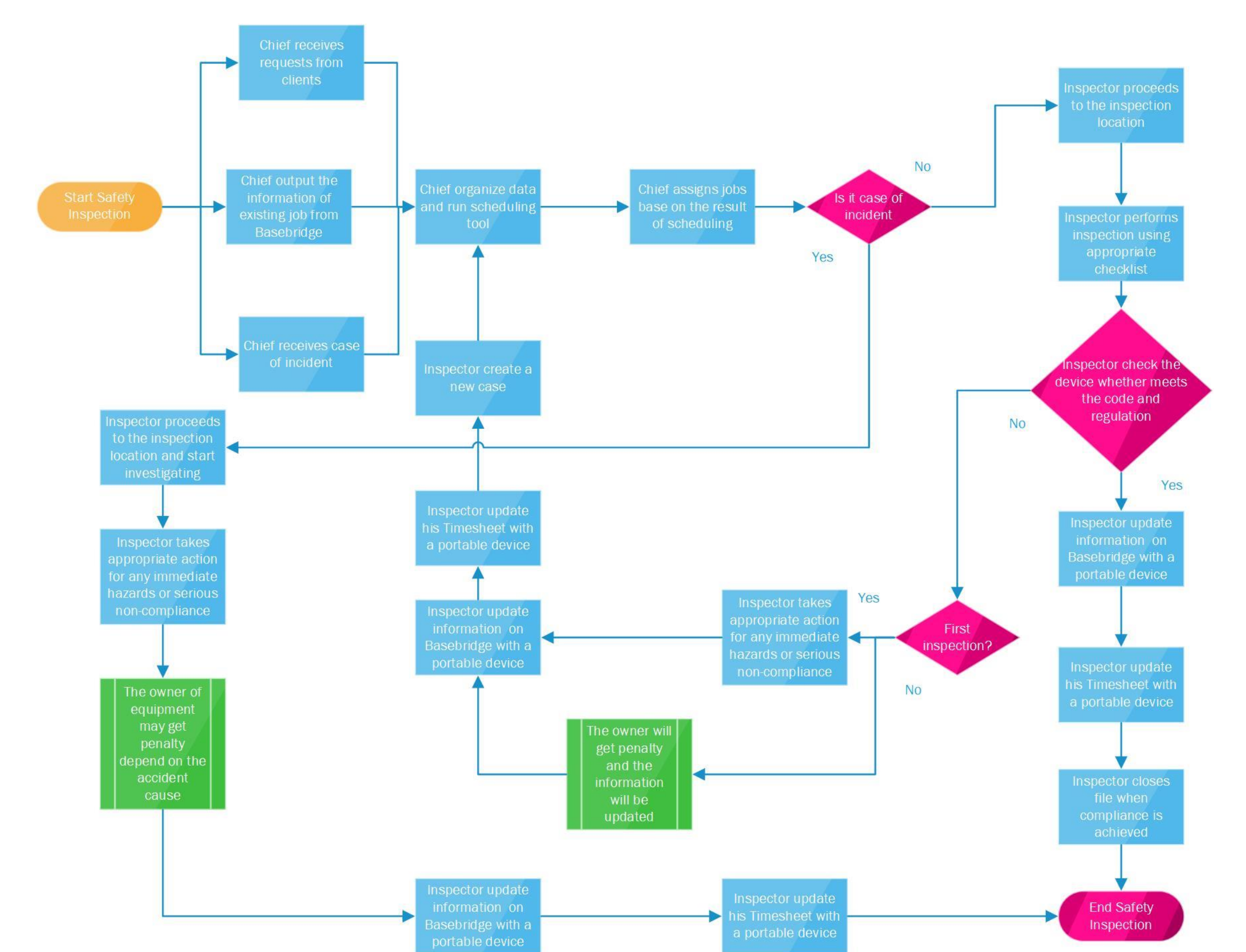
- Each inspector has his own task list
- Output includes:
 - NSIN number
 - Address
 - Inspection type
 - Deadline
 - Date



Current Process



Improved Process



Scheduling Improvement

	Completed inspections in 2018	Uncompleted inspections in 2018	Completed inspections after applying the solution plan
ELD	690	1108	1050
BPD	3600	3315	7266
FSD	220	19	297

Data Entry and Reporting Improvement

	Completed inspections in 2018	Completed inspection s after applying the solution plan	Completed inspections after using software automatic update data
ELD	690	1050	1108
BPD	3600	7266	7600
FSD	220	297	419

Acknowledgment

The team thanks the employees of the N.S. Technical Safety Division for their assistance, and appreciates the guidance of our supervisor, Dr. Ron Pelot, and other members of the IENG Department.