

SCED Case Input Bias

A light blue arrow pointing to the right, containing the text "ASO (1 hour ahead)".

ASO
(1 hour ahead)

A dark blue arrow pointing to the right, containing the text "IT SCED (2 hours ahead)".

IT SCED
(2 hours ahead)

A light blue arrow pointing to the right, containing the text "RT SCED (10 min ahead)".

RT SCED
(10 min ahead)

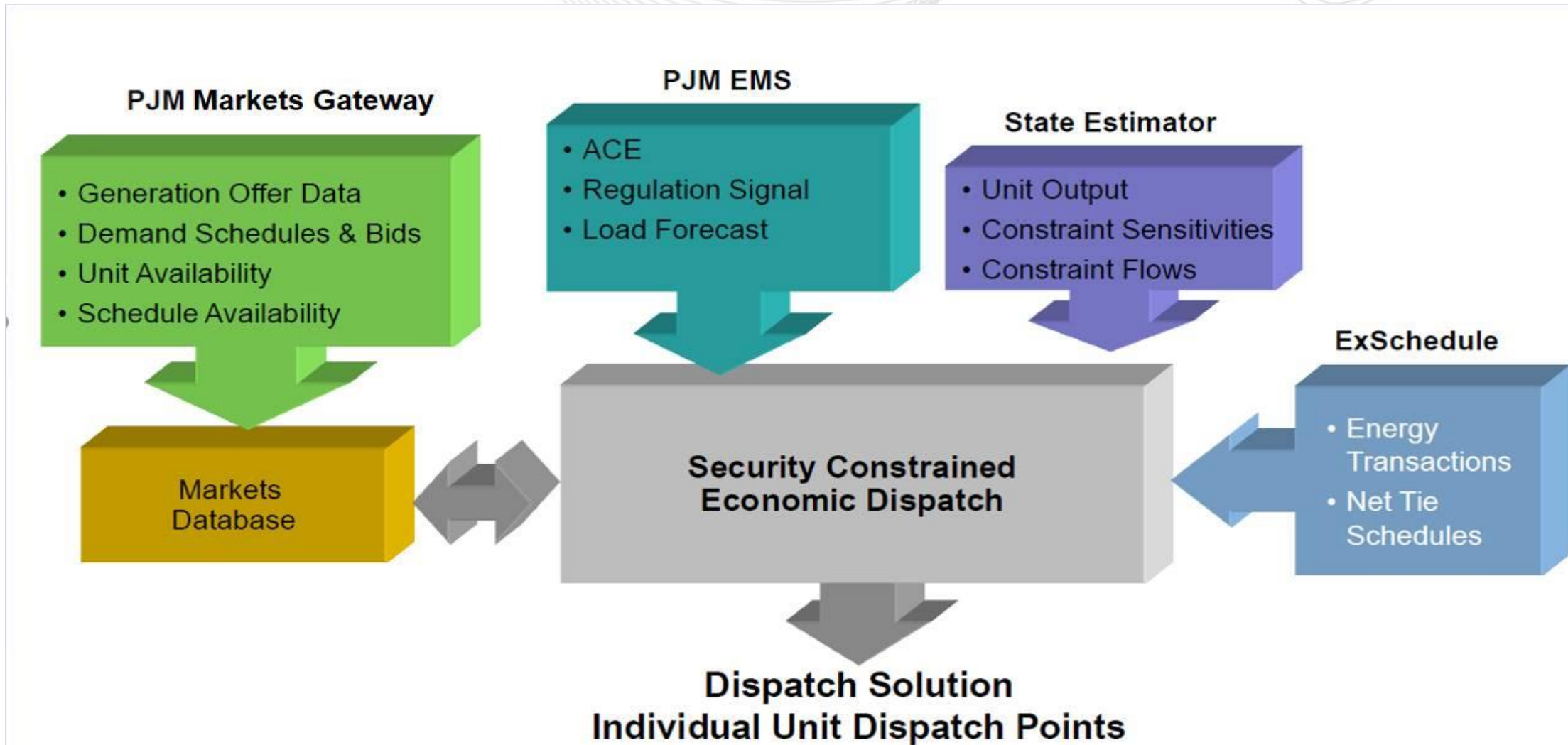
- Dispatching resources to maintain the system balance of generation and load while maintaining reserve over a near-term look-ahead period
- Current and projected system information is used to anticipate generator response to multiple load forecast targets
- RT SCED jointly optimizes online energy, and reserves, ensuring system needs are maintained
 - Regulation assignments are fixed based on the ASO commitment
- RT SCED outputs include energy basepoints, Tier 2 and Non-Synchronized reserve commitments which are sent to resource owners in real-time
 - All outputs may change with each solution based on system economics and reserve needs



- Used by PJM to perform various functions over a 2 hour look-ahead period
 - Resource commitment recommendations for energy and reserves
 - Resource commitment decisions for economic demand resources
 - Execution of the Three Pivotal Supplier Test for energy
 - Coordinated Transaction Scheduling

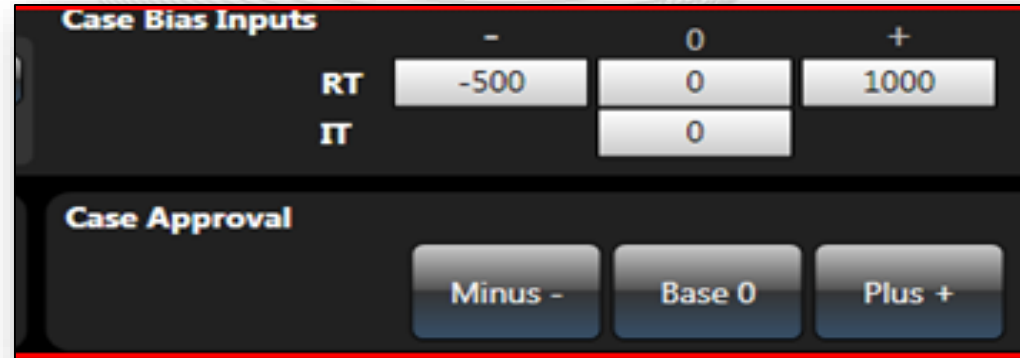
Clearing and assignment of regulation and inflexible reserves

- Solves 60 minutes prior to a target time
- Looks ahead 60 Minutes Beyond target time
- Includes Generation and Demand Response resources
- Execution of Three Pivotal Supplier for Regulation resources



Input	Automatic	Manual
RT SCED Bias	Yes	Yes
IT SCED Bias	Yes	Yes
Load Forecast	Yes	Yes
Wind Forecast	Yes	
Interchange Data	Yes	
Constraint Data	Yes	Yes
Generator Operating Parameters	Yes	Yes
EMS Data	Yes	

- Biasing is used to compensate for the disparity in the load forecast
 - Bias is distributed across the entire RTO not on a zonal basis
- Bias is entered as a MW value
- Biasing is used by other RTO/ISOs in their dispatch software



	-	0	+
RT	-500	0	1000
IT		0	

Case Approval

Minus - Base 0 Plus +

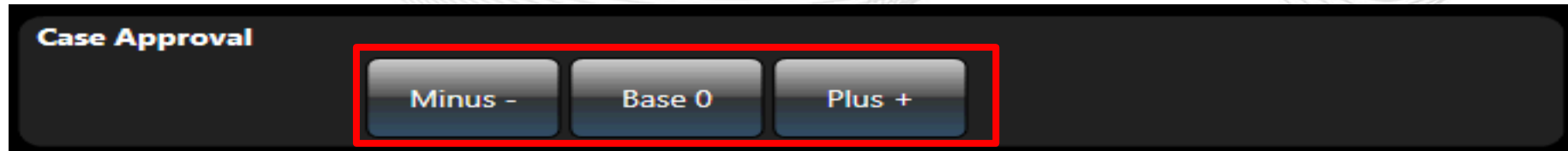
Case Bias Input Section:

- Biasing is additive
- Biasing allows operators the ability to adjust case solutions to meet real time operations requirements

“-“ (minus) – Results in a **negative manual deviation** from the base case

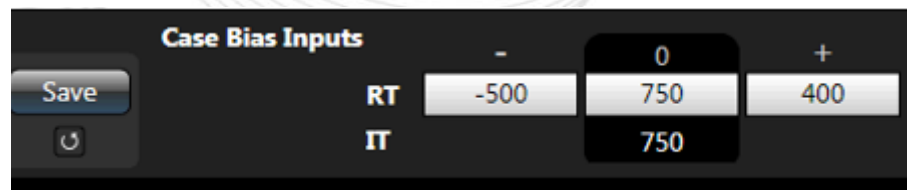
“0” (base) – Results in a base case

“+” (plus) – Results in a **positive manual deviation** from the base case



- Case approval is made by selecting one of the three case buttons (+, 0 or -)
 - The Generation Dispatcher makes a selection based on the case that will maintain ACE and BAAL limits while also considering active system transmission constraints
 - Approval of RT cases should be every 5 minutes
 - This approval moves resources based on ramp capability and includes updated system conditions (constraint MVA flow, changes in the load)
 - This will assist in constraint control

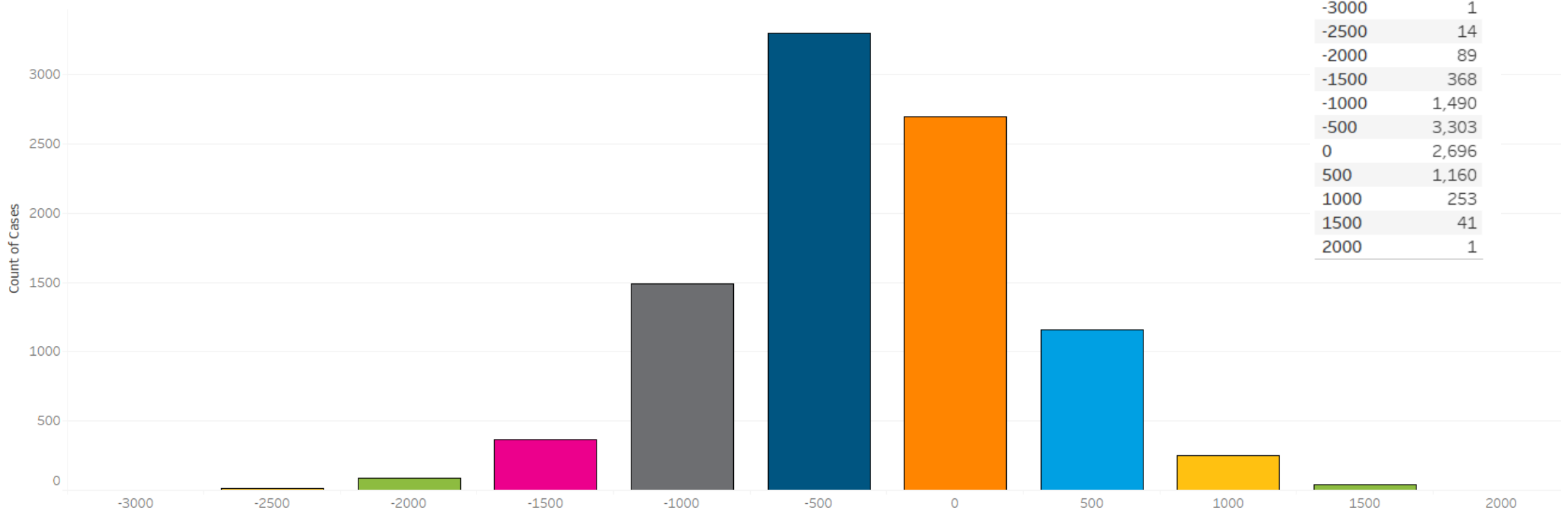
- Biasing is compensating for the disparity in the inputs such as load forecast. Bias is distributed across the entire RTO not on a zonal basis and is entered as a MW value.
- In general, IT SCED case biases should be kept in the same range as RT biases
 - Various system conditions such as cold morning pickups or load uncertainty, may require-deviation from this guideline
- RT SCED biases should generally be in the range of +/- 1000 MW during normal operations with adjustments made as necessary during certain conditions



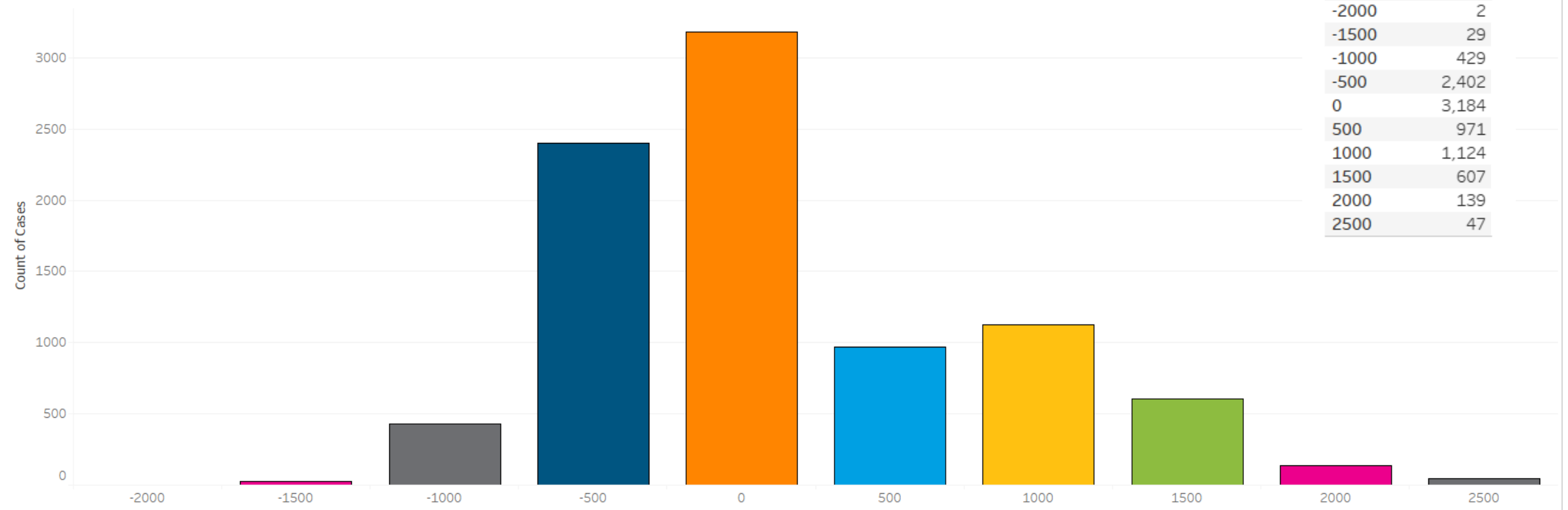
	-	0	+
RT	-500	750	400
IT		750	

- **IT SCED both commits and de-commits CTs**
 - Large + IT Bias will most likely recommend CTs
 - Large – IT Bias may recommend releasing CTs
- CT Min Run Time defaults to 2:00 hours

RTSCED May 2020



ITSCED May 2020





Metric - Approved RTSCED / ITSCED Total and RTSCED Scenarios May 2020

Case Type	Number of Cases	AVG_BIAS	MIN_BIAS	MAX_BIAS
RTSCED	9416	-200	-2600	2000
ITSCED	8934	207	-2000	2500

SCENARIO	% of Cases	Number of Cases	AVG_BIAS	MIN_BIAS	MAX_BIAS
2	23	2146	325	-1500	2000
1	26	2439	-691	-2600	1200
0	51	4831	-186	-2500	1500