

# Shinkansen Early Earthquake Detection System Improvements

## 1. Changes to the Operating Rule Criteria (switchover completed by the end of September 2005)

Current

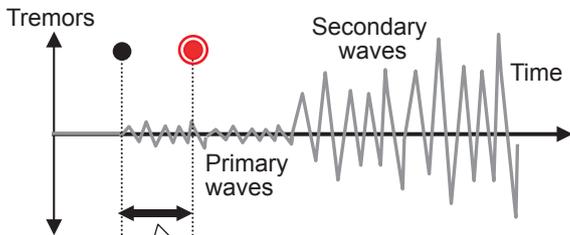
Operation restarts: Under 80 gal  
 Speed restrictions: At least 80 gal, under 120 gals  
 Operation stops: At least 120 gal

After change

Operation restarts: Under 9 kines  
 Speed restrictions: At least 9 kines, under 18 kines  
 Operation stops: At least 18 kines

These changes are expected to reduce the incidence of speed restrictions by about 30%.

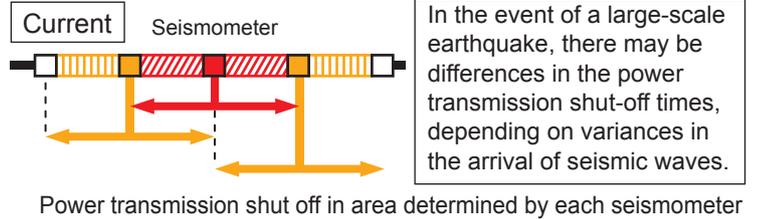
## 2. Changes in methods for estimating earthquake scale, etc. [Scheduled for completion at the end of FY2005]



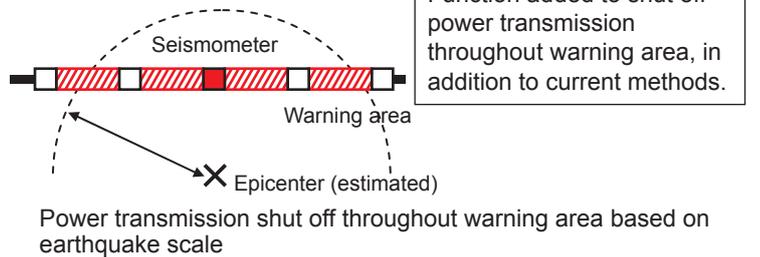
Shortening estimation time  
 (Seaside, 3 sec. → 2 sec.)

- Arrival of seismic waves
- Primary wave warning

## 3. Addition of a function for stopping power transmission over the range affected by earthquakes [Scheduled for completion at the end of FY2005]



After improvement



## 4. Increased installation of wayside seismometers [Scheduled for completion at the end of FY2006]

Seismometer interval (km)

	Max	Average
Current	34	21
After change	20	13



- Waysides (existing)
- Waysides (additional)
- ◆ Seaside