

25 September 2025
15:00 (CET) - Online

UIC WEBINAR

Sharing Railway Response to the Iberian Power Outage: Impact on Railway Systems and lessons learned

**Impact of the blackout on the Spanish
railway system**



INTERNATIONAL UNION
OF RAILWAYS

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Railway Impact

Railway Impact



/ **10,474 km** of electrified rail lines were affected

/ **1,97 million €** Infrastructure damage

/ **1,879** Trains affected at the time of the incident

Long Distance	Medium Distance	Commuter trains	Freight trains
112	246	1,425	96

/ **13** Maintenance locomotives deployed for rescue (hybrid series 336)

/ **20** Rescue services carried out

/ **135** Trains stopped on unusual locations at **01:30 A.M.**

/ **32** Stations opened during the night of April 28th.

/ **+12,000** Passengers spent the night in stations.



Management

General Railway Management



Activation of ADIF Emergency Master Plan



Use of redundant power equipment



Energy Remote Control unit in constant contact with the REE



Rescue or evacuation of trains in critical locations



Coordination with Civil Protection, UME and regional governments



Passenger assistance service at stations



Adif human resources were widely deployed



Key Actions:

- Immediate activation of **CGRH24** (*Central management committee*) & **territorial committees**.
- **All CRC** (Traffic Control Centers) **were operated with power backups** (UPS & generators).
- **All Adif Contingency plans and Safety protocols were applied.**
- **The priority was to locate and evacuate trains**, prioritizing tunnels and open tracks.
- **Help with the deployment of diesel trains and the rescue operations at critical points.**
- **Total staff involvement:** volunteering outside shifts or extending work hours. **Giving active support** for evacuations, transfers, and helping with the coordination with Security forces and rail operators. With a **physical deployment of Traffic Managers** and line supervisors to key locations.



Service restoration:

- Uneven service restoration, **some technical issues persisted until May 5th.**
- **Gradual resumption of services.**
- **Manual interventions:** phone blockings, local controls, etc.



April 29th services were gradually restored with a progressive adjustments of schedules, train composition, and staff.

Special trains were launched and stops at unscheduled stations were authorized to pick up passengers stranded from the previous day.

Recovery was especially affected by the displacement and availability of trains and drivers, as well as infrastructure issues, requiring at the end a whole service reorganization.

HS services resumed their normal schedules at noon on April 29th.

Key Actions:



- **Activation of ADIF Emergency Master Plan.**
- **All operational resources mobilized** to the stranded trains and main stations.
- **Work focused on locating stranded trains.** Notable cases: evacuations in Pajares, Sagrera and Chamartín-Atocha tunnels.
 - **Conventional lines:** most passengers were self-evacuated (except those stopped on open tracks).
 - **High Speed lines:** in most of the cases passengers had to wait for rescue or train towing.
- **Major stations evacuated and later reopened for overnight stay** (from 9:00 p.m.).
- **CASH24** (24/7 Security center) centralized operational info and coordinated priorities with Adif's Crisis Committee.

Security and Safety Department II

Coordination with Emergency Services:



- Through **CASH24** and regional **24/7 Security & Safety Centers**.
- **Security Forces, Red Cross, UME and Civil Protection**.
 - **UME and Civil Protection** were deployed at critical points & stations, providing blankets, food and aid.
 - **Red Cross** helped with aid in stations and trains.
 - The security was ensured by the presence of **Security Forces (Police, Civil Guard,...)** at the stations.
- They gave assistance to passengers with medical or psychological crises.
- The operational communication with them was maintained thanks to **landlines, radio & physical** staff mobilization.

Internal Coordination with:

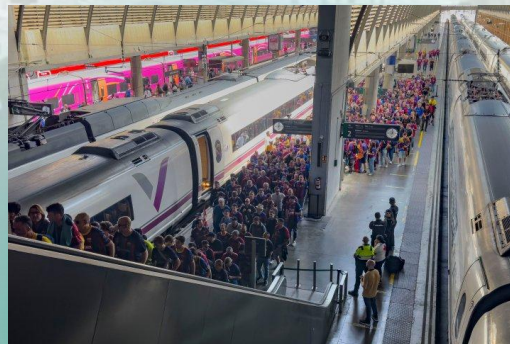
- The **Traffic department** to locate stranded trains and to organize rescues.
- **Stations department** for closing and opening the stations to offer aid to stranded passengers.

Stations Department

Although the incident covered the entire network, not all the stations were affected, only high-speed stations, conventional stations in regional capitals, and isolated cases of stations due to train evacuations.

Key Actions:

- **Access control to avoid crowds in lobbies.**
- Activation of **generators** in most of the main stations.
- **Support vulnerable passengers** or those with mobility issues with the *Acerca* service.
- **Extending work hours of station staff.**
- **Coordinate with Security Forces and UME present in stations**, with overnight stays in some cases.
- **Barriers lifted at all station parking lots** to allow free vehicle movement.



Maintenance Department

Key Actions:

- **Specialized personnel and all available Adif 336 series locomotives were mobilized** to rescue passenger trains:

Personnel	Nº Vehicles	Nº Trains
1284	291	13



- Significant **damages** were suffered in the railway infrastructure, affecting the **electrification systems and the safety and telecommunications facilities**.
- The economic assessment of the damages suffered was **1,965,221.11 €**.
- All personnel was focused on ensuring the operation of the facilities, **using redundant power equipment** (generators, UPS, and batteries), **physically traveling when local action was necessary**.
- A total of **20 rescue services were carried out**, using 13 locomotives, keeping all available locomotives (21) on standby from 3:00 p.m. on the 28th, with the last exceptional service being completed at 4:40 PM on the 29th.



Conclusions

Conclusions



Fragility of communications



Deployment of an independent communications system



Increase generators autonomy



Reinforce main stations with human and material resources



Plan alternative railway corridors



Reinforce train personnel



Conditions for transporting people during rescues more flexible



THANK YOU





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**THANK YOU FOR YOUR
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