

# French Regulation on Transport of Dangerous Goods on Nuclear Sites

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## ABSTRACT

The “on-site transport” of dangerous materials (transport inside a nuclear site) is not regulated by the international regulation for dangerous goods. However it poses the same risks for the public and the environment as the transport on public roads.

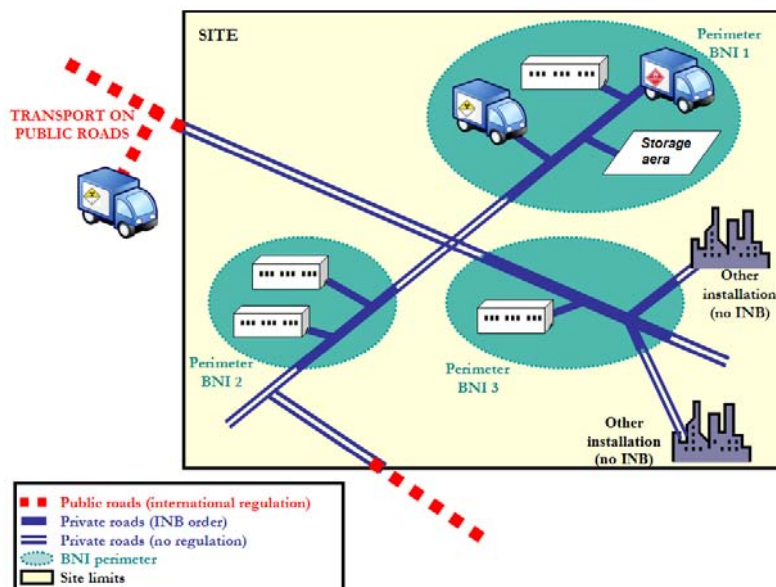
France has regulated the “on-site transport” of dangerous goods (all classes of dangerous goods). The level of safety of the “on-site transport” should be assessed and should be included in the safety requirements of the nuclear installation.

The nuclear operators can choose different ways of assessing the level of safety of their operations. One of them could be establishing specific transport rules for the site. These rules would be based on the international regulation with less stringent resistance tests or simplified rules.

## WHAT IS REQUIRED BY THE FRENCH REGULATION?

The utilisation of hazardous materials implies moving them around within a nuclear site. The “on-site transport operations” are not subject to the regulations governing the transport of dangerous goods (ADR), which only apply on public roads.

The regulation of on-site transport operations has recently been incorporated in the new technical regulations relative to basic nuclear installations (more commonly called the “BNI order” of 7 February 2012).



The reason for this is that on-site transport of hazardous materials presents similar risks and inconveniences for the environment and the public as the transport of dangerous goods on the public roads. When these operations are carried out within the BNI perimeter, their safety must be overseen on the same account as the other risks and inconveniences present within this perimeter. It is therefore logical that the framework for on-site transport operations should be the same as that for all the operating operations carried out within the BNI perimeter.

Under these new regulations, the BNI licensees shall declare all the types of on-site transport operations they wish to carry out, and their corresponding operational provisions. All dangerous goods are concerned (radioactive materials, inflammable liquids, corrosive substances, etc.). The aim is to ensure that the level of safety of all on-site transport operations is acceptable.

The principles adopted in the new technical regulations of the “BNI order” are as follows:

- if on-site transport operations comply with the regulations relative to the transport of dangerous goods on the public roads, then they are considered to have a satisfactory level of safety and can be carried out on the private roads of a site;
- if on-site transport operations do not comply with the regulations relative to the transport of dangerous goods on the public roads, their level of safety must be analysed and demonstrated.

Moreover, as an operation described in the general operating rules of a BNI, on-site transport operations are also concerned by all the other prescriptions from the BNI order, including:

- notifications of significant events to the authority (noncompliances with the general operating rules, accidents, etc.) and analyses of these events;
- considering scenarios involving on-site transport in the on-site emergency plan design study;
- any modification of the conditions of on-site transport is submitted to the regulation concerning modifications of the general operating rules of a BNI;
- ...

## **SAFETY DEMONSTRATIONS EXPECTED**

The safety demonstrations have to be integrated in the safety reports of the BNIs concerned by these on-site transport operations. Two ways are possible:

- 1) specific demonstrations for each type of on-site transport operation,
- 2) demonstrations of the compliance with “generic transport rules”, established for the site.

These transport rules could be based on the international regulation with less stringent resistance tests or simplified rules, considering the risks on the site and the means of intervention (see examples in the table). **The aim is to ensure that all on-site transport operations reach an acceptable level of safety.**

<b>Requirement of the international transport regulation (public roads)</b>	<b>Example of conceivable rule for “on-site transport” (private roads)</b>	<b>Example of conditions</b>
Resistance to a 30 minutes fire test	Duration of the fire test shortened	The local safety organisation must intervene in less than 30 minutes.
Resistance to a water-immersion test	No immersion test	The package won't be transported along an area of water, including in the event of loss of control of the vehicle.
Resistance to a drop test	Height of drop tests reduced	The speed of vehicles is limited on the site / Radioactive packages are transported on dedicated roads or rails.

## **MODIFICATIONS CONCERNING “ON-SITE” TRANSPORT**

According to the French regulation for BNI, modification of the general operating rules of a BNI concerning on-site transport should be notified to ASN, following a specific procedure indicated in decree 2007-1557 of 2 November 2007 concerning BNI and the supervision of the transport of radioactive materials with respect to nuclear safety.

The operator may not implement the intended modification before expiry of a 6 month period, barring express approval by ASN, which can also extend this period if further review or issue of additional

requirements is deemed necessary. If ASN decides on new requirements, it notifies the operator accordingly and communicates them to the ministers responsible for nuclear safety.

The operator may be exonerated from this procedure by ASN for the performance of minor operations, provided that the operator sets up a system of internal checks offering sufficient guarantees of quality, independence and transparency and approved by ASN. Such an exoneration should be considered for transport of small quantities or low activities.

## **CONCLUSION**

**With this new regulation, ASN will check that the level of safety of on-site transport operations of all dangerous goods is acceptable through examination of the safety demonstrations and inspections.**

ASN will soon publish a guide to help the operators implement the regulation.