
The Role of NCS in the New Structure of the German Fuel Cycle Industry

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There are two main reasons for me to be here today:

- to explain to you the reorganisation of the German fuel cycle industry and the effects on nuclear transportation and
- the role of NCS within this new concept.

Before I start please allow some personal remarks.

Of course I am happy to have the chance to give this paper. Since it has been accepted by the committee and I received the program I am wondering why it has to be presented under the title of this session: risk assessment.

- Because I gave papers on the last three PATRAM meetings it cannot be a risk - I am known already.
- With NCS it cannot have to do either. Before you are allowed to transport one kg of Uranium at all in the FRG, you are more thoroughly checked than a DC-10. (The check-up of a DC-10 is a cat's lick in comparison to what we have to comply with).
- Is it because that people from outside the FRG have many questions and little or no answers to what has happened in our country the last 18 months?

At least I will try to clear some things up for you running the risk that you assess afterwards the situation as being a very complicated one.

As a consequence of the so called German/Belgian Waste Affair the German Federal Minister for the Environment, Nature Conservation and Reactor Safety (BMU) has asked the industry for a reorganisation of the German fuel cycle industry in early 1988 (so called BMU-concept).

Main reasons as far as postulated by the BMU were

- to have a better transparency of the companies being involved in this industrial area and
- to have clearly defined areas of competence and responsibilities within the nuclear fuel cycle.

This concept is mainly based on four different columns:

- fuel supply
- power generation
- waste treatment
- transport.

While the first three points are of minor interest here I will concentrate on the transport.

The BMU concept takes care that transports are not under the control of the industry but in the responsibility of the German Federal Railway (DB) to make sure

- that a neutral organisation as the government owned DB supervises all transports and owns all necessary transport licences within the FRG.
- that as much shipments as possible are transported by rail

All railway companies anywhere in the world are carriers and almost never freight forwarders. The same stands for the DB in Germany. DB the last 15 to 20 years transported all sorts of nuclear materials with an excellent record. To cope with the political requirements by the BMU it needed the assistance of experts on freight forwarding and engineering experienced in nuclear fuel cycle activities.

NCS was founded 1985 by the 100 % DB-owned international freight forwarding organisation Schenker + Co., GmbH, Frankfurt/M. This already specialized company in 1988 was too small to manage the requirements politically imposed by the BMU. Therefore NCS took over the paralyzed but not damaged transport and engineering divisions of TNH plus the nuclear transport division of RSB. This deal was finally signed on March 1st, 1989.

Sorry for this long explanation and introduction. Nethertheless I am proud of myself. A couple of months ago it still would have taken me an hour or two instead of five minutes to explain the concept.

So what is the role of NCS? To fulfill the gap between the responsible job of a carrier and the needs for a forwarding/engineering company within the nuclear fuel cycle.

The easiest thing to explain our work is to show some organisation charts, one showing the "job sharing" between DB and NCS and the others to explain the organisation of NCS including the different fields of activity.

If anybody of you should now be under the impression to join an advertising ceremony I must tell this has not been my intention but I am not sorry about it.

40 to 50 % of all transports are international ones which in addition to the engineering task requires the knowledge of

- international rules and regulations and
- partners to work with.

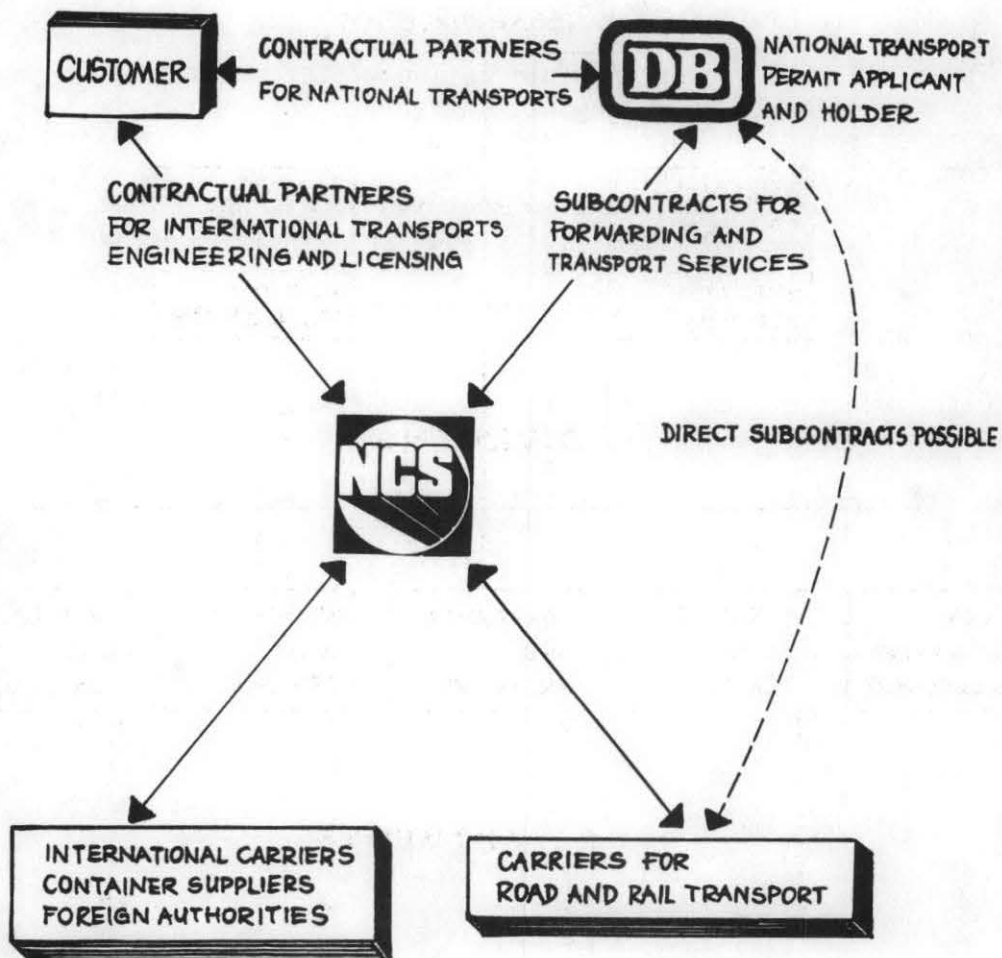
Due to a politically requested quasi monopoly of the DB - and NCS is DB - NCS must be open to all international transport companies which have to organize shipments on behalf of their clients to and from the FRG or have engineering and licensing problems to solve.

By giving you some background information of the political aims and explaining as how DB including NCS solved this challenge the purpose of my paper should be reached, and I am convinced you came finally to the conclusion that shipping to our country does not need a risk assessment. The only wish I have is that you people never are faced in your country with problems my colleagues and myself were confronted with.

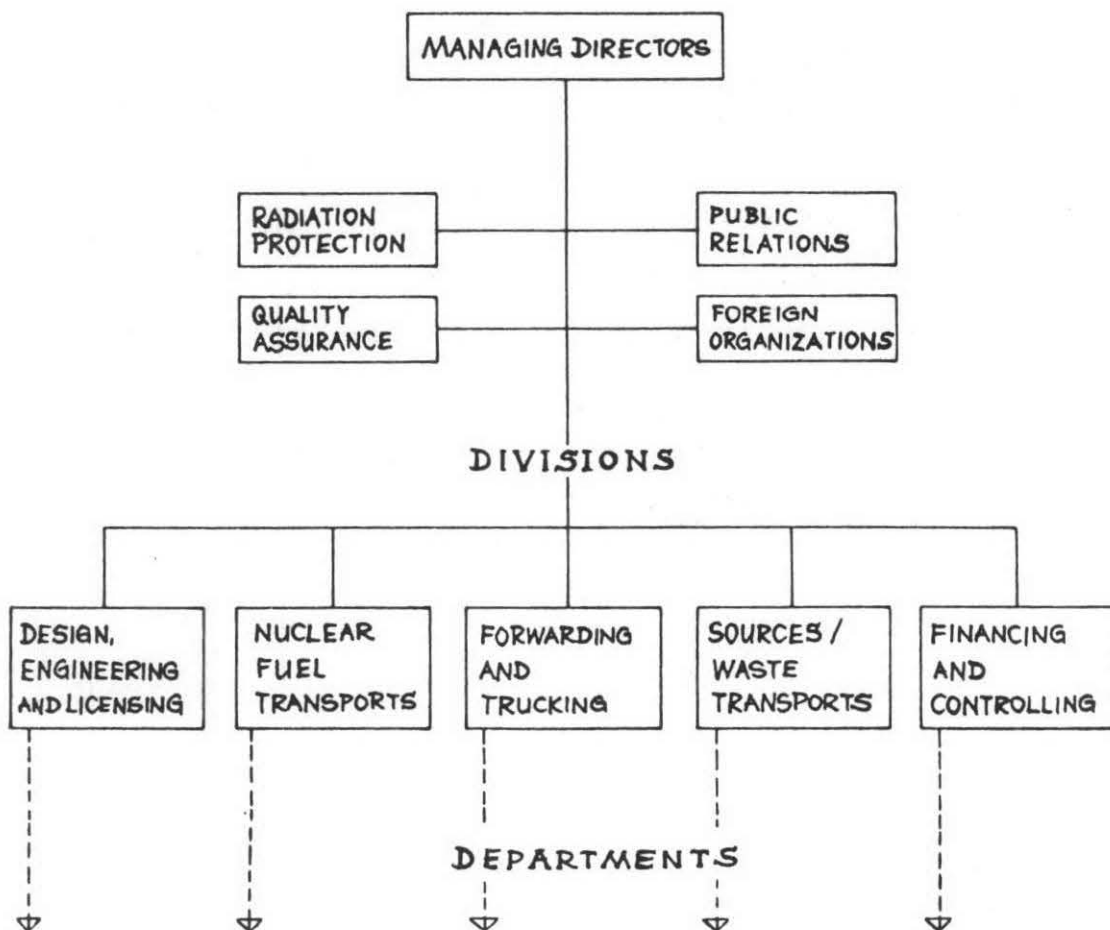
I hope I am still in time to have the opportunity to answer your questions. But if I reached with my paper what a Swedish friend of mine some weeks ago expressed after I gave him similar explanations I would be happy:

"I am still confused", he said," but on a higher level".

TRANSPORT OF NUCLEAR MATERIAL WITHIN AND OUTSIDE THE F.R.G.



ORGANIZATION CHART



DESIGN, ENGINEERING AND LICENSING

- Containers:
 - . design / testing
 - . safety analysis
 - . licensing / specifications
 - . procurement
 - . loading/unloading
 - . maintenance / retesting
- Preparation of transport approvals
- Radiation control of
 - . personnel
 - . equipment
- Q.C. of transport operations
- Intermediate storage of containers and equipment
- Security
 - . specifications
 - . equipment
 - . system for tracking of shipments
- Safety analysis and feasibility studies on transport operations

NUCLEAR FUEL TRANSPORTS

1. Unirradiated fuel transport group
 - . natural uranium ore concentrate
 - . natural uranium in form of UF_6
 - . enriched uranium in all chemical and physical forms (UF_6 , UO_2 , etc.)
 - . depleted uranium

Organization chart (continued)

This group has available a total of 546 containers for the different types of material.

2. Irradiated fuel transport group

- . MTR spent fuel to the reprocessing plant
- . spent fuel (rods, samples) from nuclear power stations or research centers to reprocessing plants or hot cells
- . technical assistance for loading and unloading of containers
- . complete back end service for research reactors including reprocessing and conversion of the reprocessed material

This group has available a total of 7 casks.

3. Security transport group

- . fresh MTR-fuel (highly enriched)
- . PuO₂
- . MOX-fuel assemblies

This group operates an armoured vehicle for all categories of security shipments, communication equipment, armoured escort vehicles

FORWARDING AND TRUCKING

- . Own fleet of 17 cars/trucks with special equipment (communication-systems, etc.)
- . Performance of security-transports with special trained and armed drivers
- . Own staff in German sea-ports
- . Reliable partners worldwide to ensure high-standard service

Organization chart (continued)

SOURCES / WASTE TRANSPORTS

- Radioactive waste of all types
 - . radioactive/contaminated components from nuclear installations
 - . waste from medical and research institutes
 - . combustible waste such as gloves, garments etc.
 - . conditioned radioactive waste of all types from the licensee to storage
- Other radioactive materials and sources for industry, research, medicine
- Samples for IAEA / EURATOM
- Special dangerous goods

Session V-4

**Office of
Civilian
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