

Withhold from Public Disclosure under 10 CFR 2.790

*NRC Entrance Meeting
NS-4-FR*

Tom A. Danner

Director Design, Analysis & Product
Development

Engineering & Design Services

NAC INTERNATIONAL



01 records withheld under the Freedom of Information Act, exemptions 4
FOIA-0003-395

N-1

NS-4-FR History

- Bisco Products Develops Neutron Shielding Material - Mid 1980's
 - First NS-4 Studies: 1982
 - Total NS-4 Product Reports: 32
- JAPC Subsidiary Genden Engineering Services and Construction Company (GESC) Becomes Bisco Products Licensee: early 1980's
- Japan Transport Fleet Adopts NS-4-FR: early 1990's
- Dow Corning / Bisco Products Sells All NS- Formulations to GESC: 1993
- GESC Business Fails [Confidential Information] 1997 *EX*
- JAPC Takes Over NS- Products: 1998



NAC NS-4-FR History

- NAC Chooses NS-4-FR as Neutron Shield: early 1980's
- First NAC-S/T SAR: December 1984
- NAC-S/T Cask – First US Spent Fuel Cask with NS-4-FR
 - Licensed 1988
 - NAC Delivered Two Casks [REDACTED] 1989-1991
- NAC Revises the NAC-S/T Basket to Become the NAC-STC Using NS-4-FR as the Neutron Shield
 - Transport License: 1994
 - Storage License: 1995

Confidential Information - Customer

4

Confidential Information

[REDACTED]

Confidential Information

[REDACTED]

4



Trade Secret NS-4-FR Development

Bisco Products

■ Raw Material Formulation

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Trade Secrets - All
Information in Brackets

EX.
4



NAC NS-4-FR Development Contributions

Based on Original Bisco Products Specifications

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Trade Secrets - All
Information in Brackets

Eyp

[REDACTED]



NAC NS-4-FR Development Contributions (continued)

Based on Original Bisco Products Specifications (continued)

■ Cask Installation Procedures

[REDACTED]

[REDACTED]

■ [REDACTED]

[REDACTED]

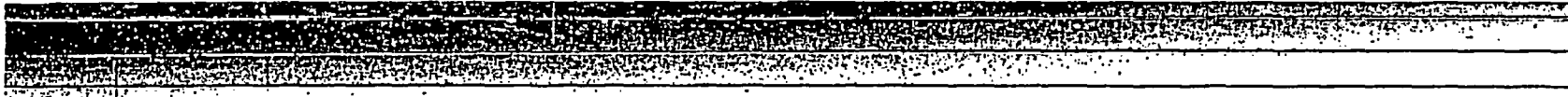
[REDACTED]

[REDACTED]

[REDACTED]

Trade Secrets - All
Information in Brackets

Exy



Specification Issues Related to Installed Product Performance

Developed by Bisco Products:

■ Raw Material Specifications

[REDACTED]

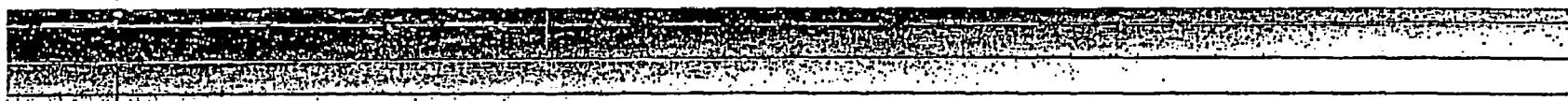
[REDACTED]

Trade Secrets - All
Information in Brackets

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■ Material Mix Percentages

[REDACTED]



Specification Issues Related to Installed Product Performance (continued)

Developed by Bisco Products: (continued)

■ Mixing Methodology

— [REDACTED]

— [REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

Trade Secrets - All
Information in Brackets

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Quality Program Applicability to NS-4-FR Scope of Supply

- Each Project Develops a Project Plan in Accordance With:
 - QP 2-4 – Order Entry and Project Planning
- NS-4-FR Raw Material Procurement Controlled by:
 - QP 7-1 – Control of Purchased Items and Services
 - QP 7- 4 – Dedication of Commercial Items
- NS-4-FR Kits, Mock up Testing and Installation are Performed and Documented in Accordance With Project Specific Specifications as Controlled by:
 - QP- 3-3 – Preparation and Checking of Design Drawings Specifications and Reports



Project Experience

Confidential Information
- All Information in
Brackets

- [REDACTED]
 - Cf 252 Transport Cask
- [REDACTED]
 - Forklift Cabs - (2 trucks)
- [REDACTED]
 - 9 [REDACTED] Casks
- [REDACTED]
 - 2 [REDACTED] Spent Fuel Casks
- [REDACTED]
 - MOX Fuel Handling System
- [REDACTED]
 - Two Spent Fuel Casks
- [REDACTED]
 - 7 [REDACTED] Storage Casks (Current Project)

EX 4

