



Used nuclear fuel transportation: The next steps

FONOM Conference

May 5th - 7th, 2025

Ulf Stahmer

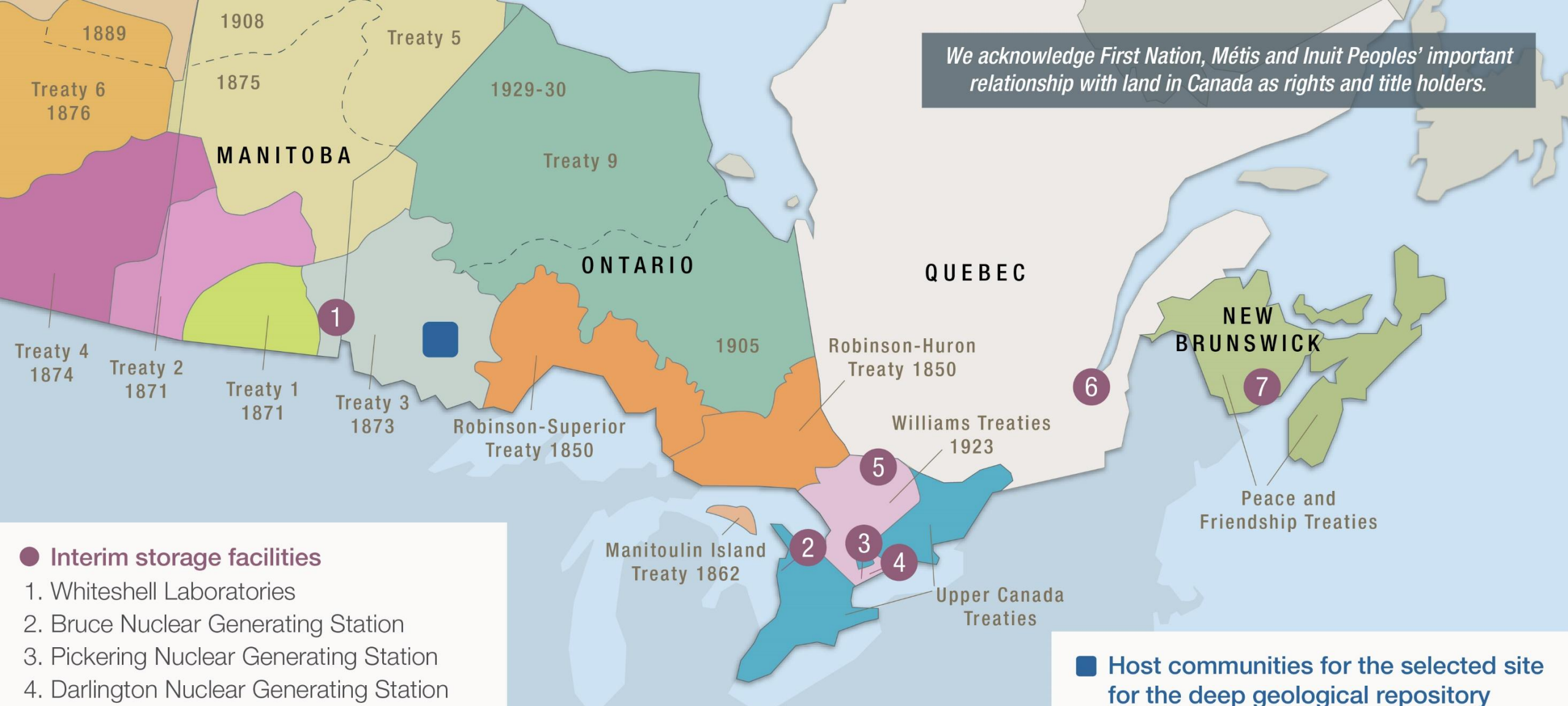
Introducing the NWMO



Our mandate is to develop and implement collaboratively with Canadians, a management approach for the long-term care of Canada's used nuclear fuel that is socially acceptable, technically sound, environmentally responsible, and economically feasible.



We acknowledge First Nation, Métis and Inuit Peoples' important relationship with land in Canada as rights and title holders.



● Interim storage facilities

- 1. Whiteshell Laboratories
- 2. Bruce Nuclear Generating Station
- 3. Pickering Nuclear Generating Station
- 4. Darlington Nuclear Generating Station
- 5. Chalk River Laboratories
- 6. Gentilly Nuclear Generating Station
- 7. Point Lepreau Nuclear Generating Station

■ Host communities for the selected site for the deep geological repository for used nuclear fuel

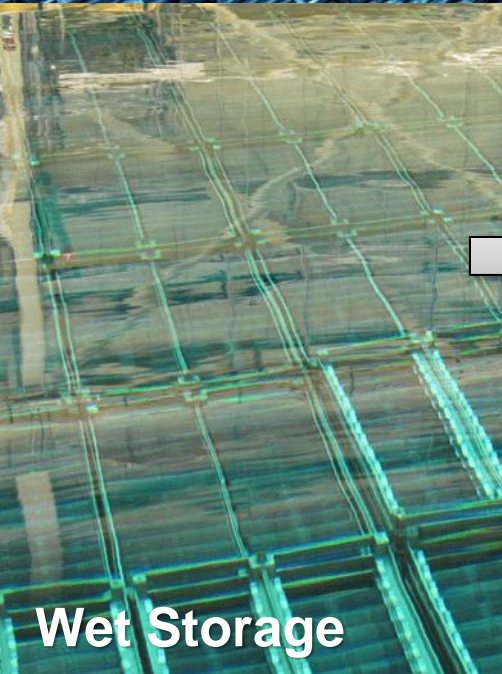
Wabigoon Lake Ojibway Nation and the Township of Ignace

What is used nuclear fuel?

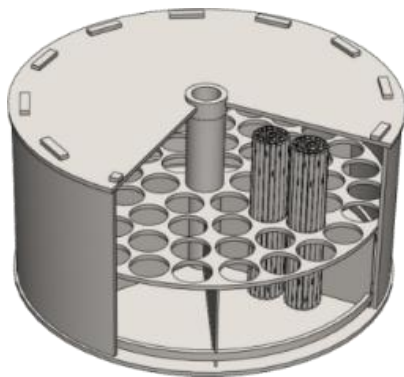




Module



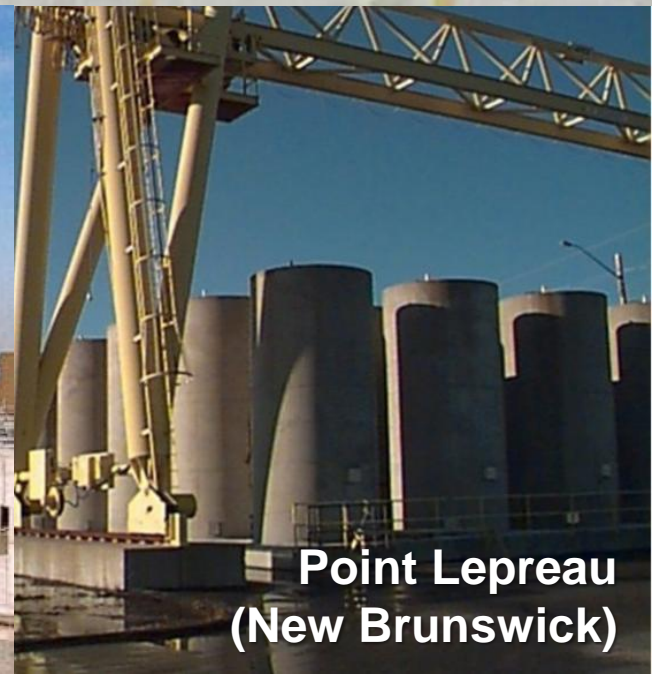
Dry Storage Basket



Bruce Power (Ontario)

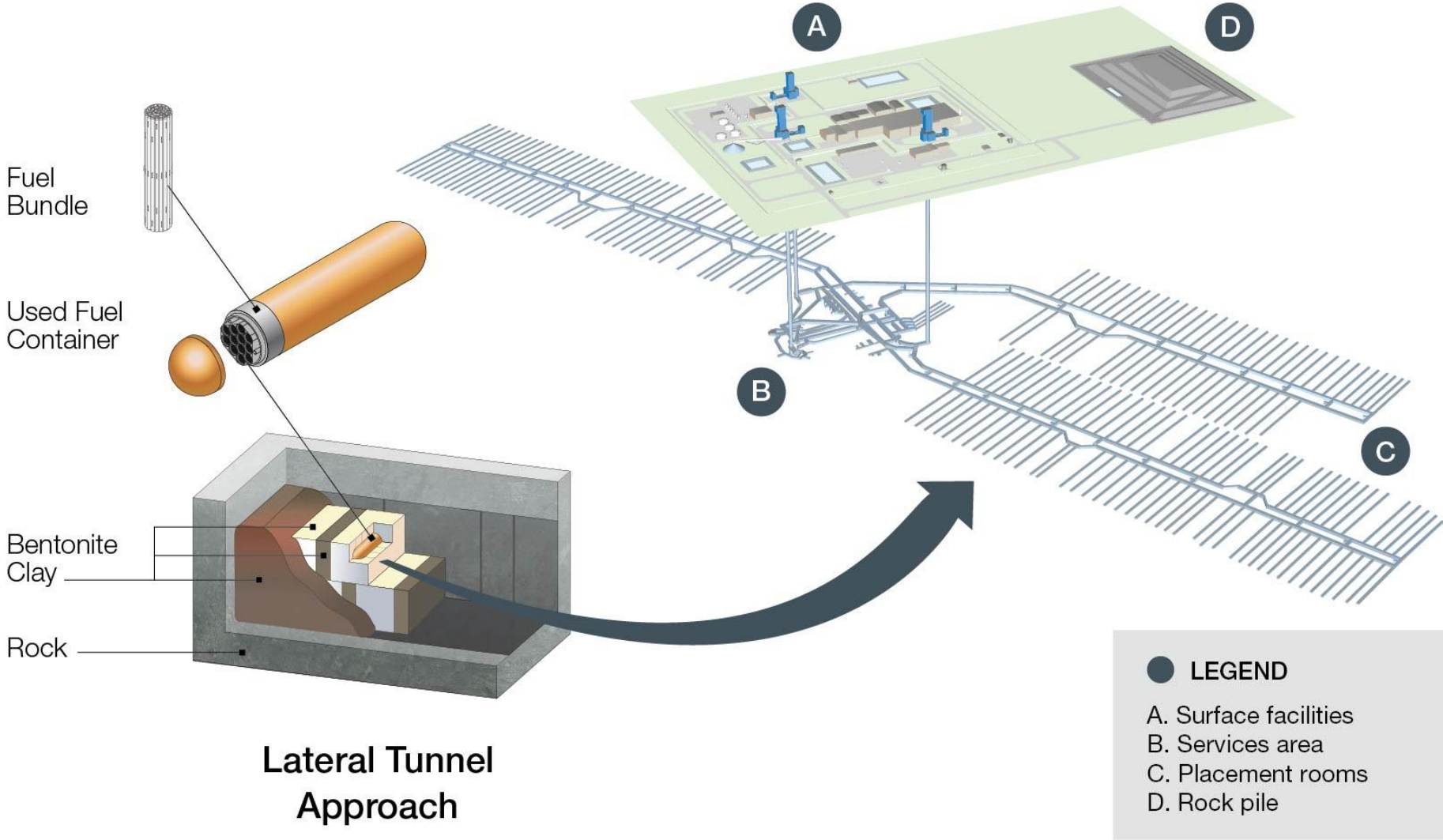


Gentilly (Québec)



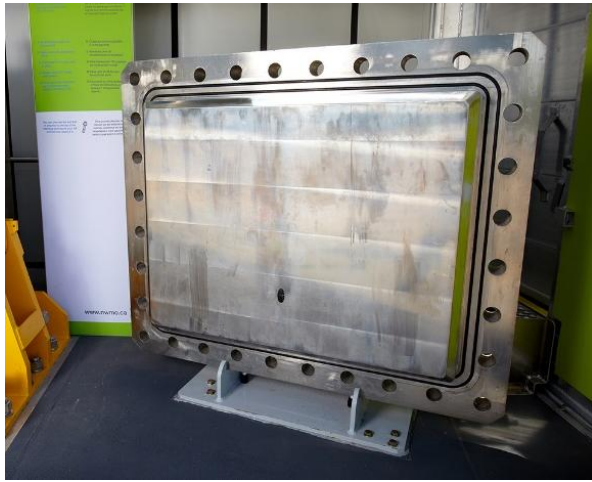
**Point Lepreau
(New Brunswick)**

Long-term management

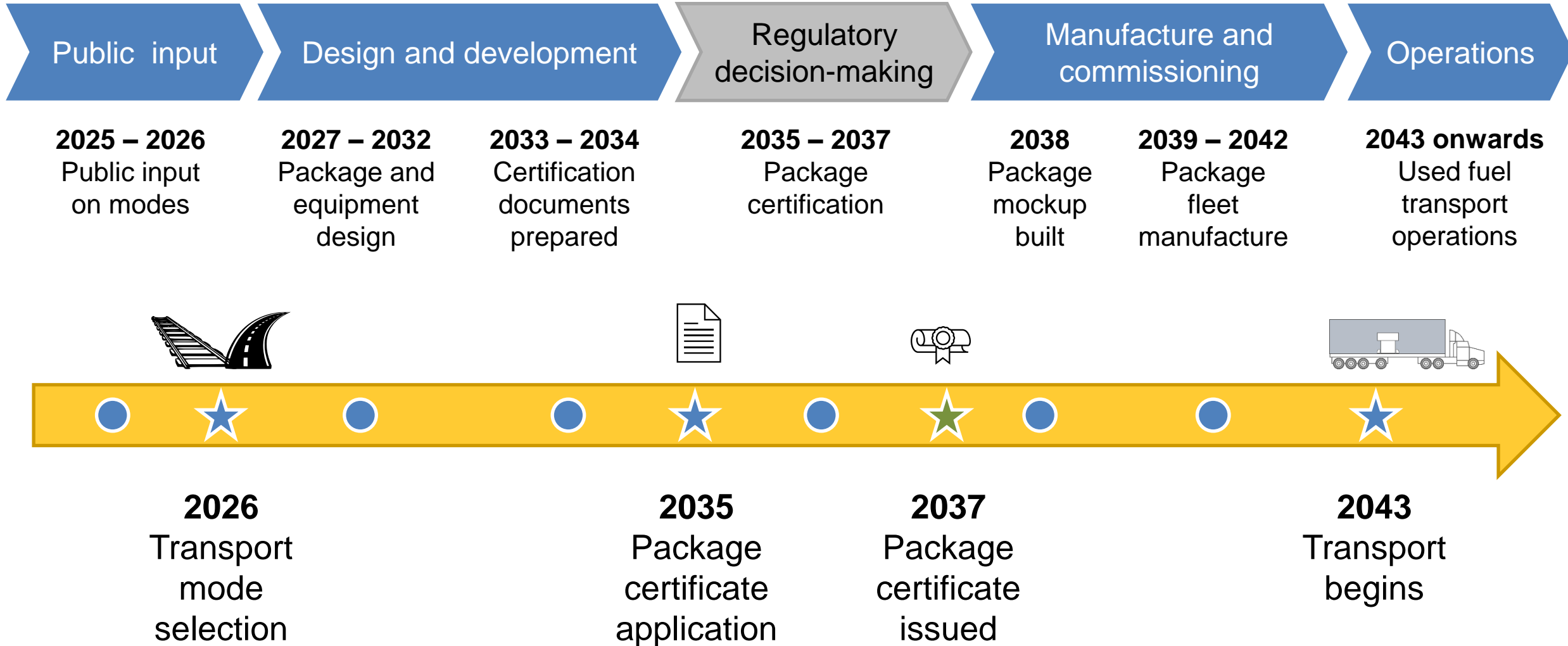




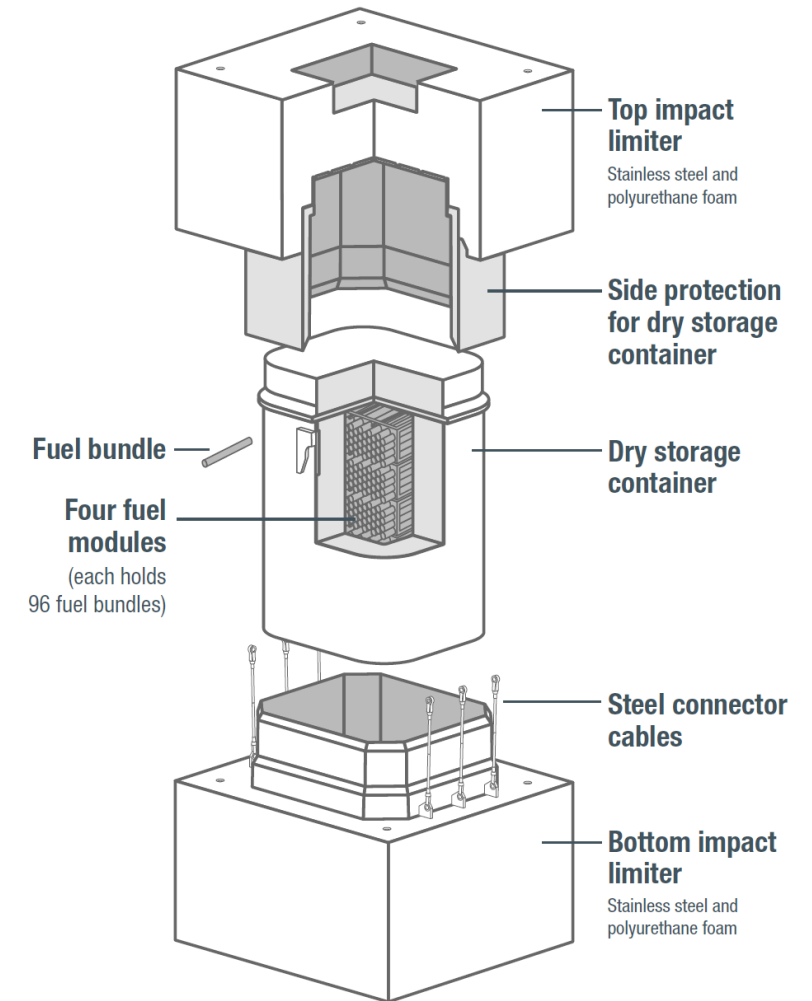
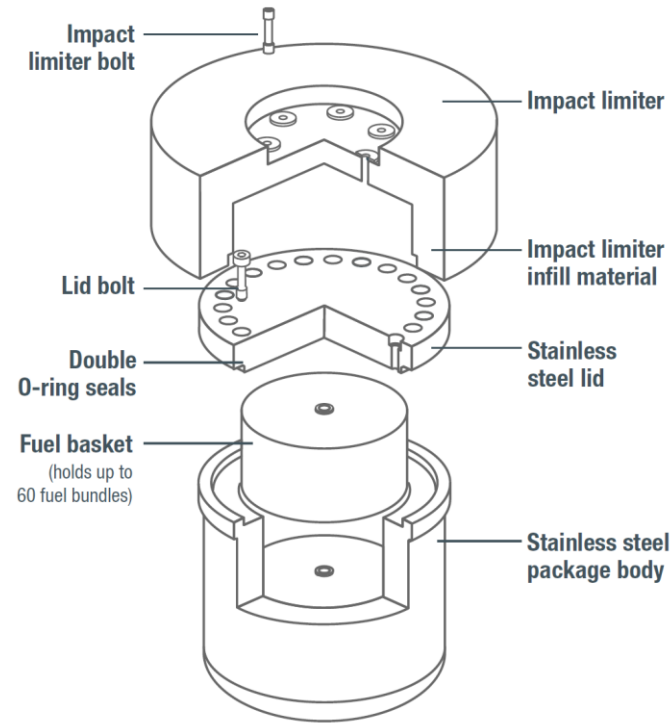
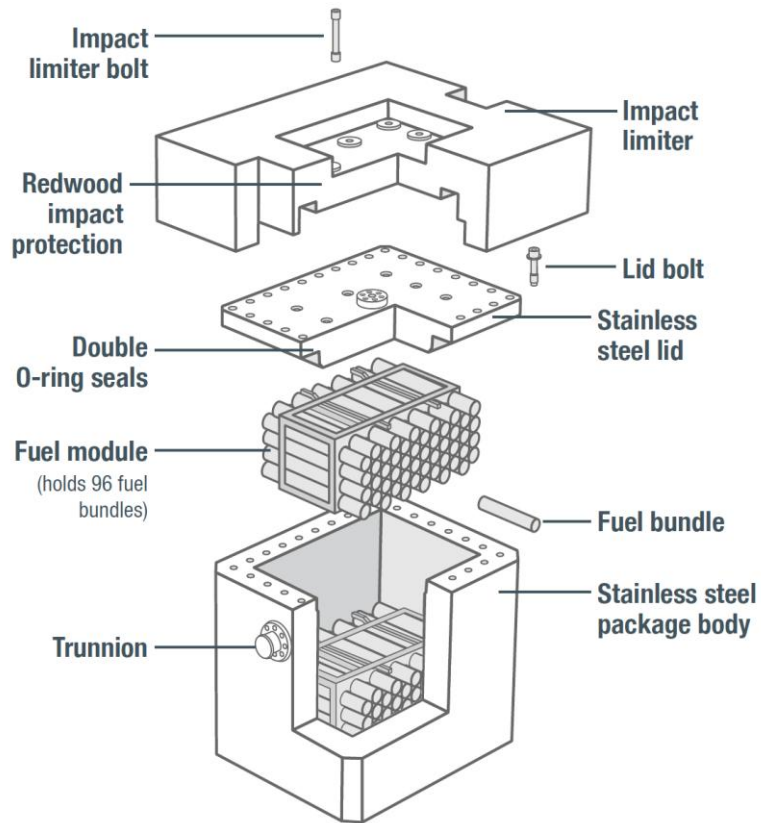
Transportation
is safe and
secure



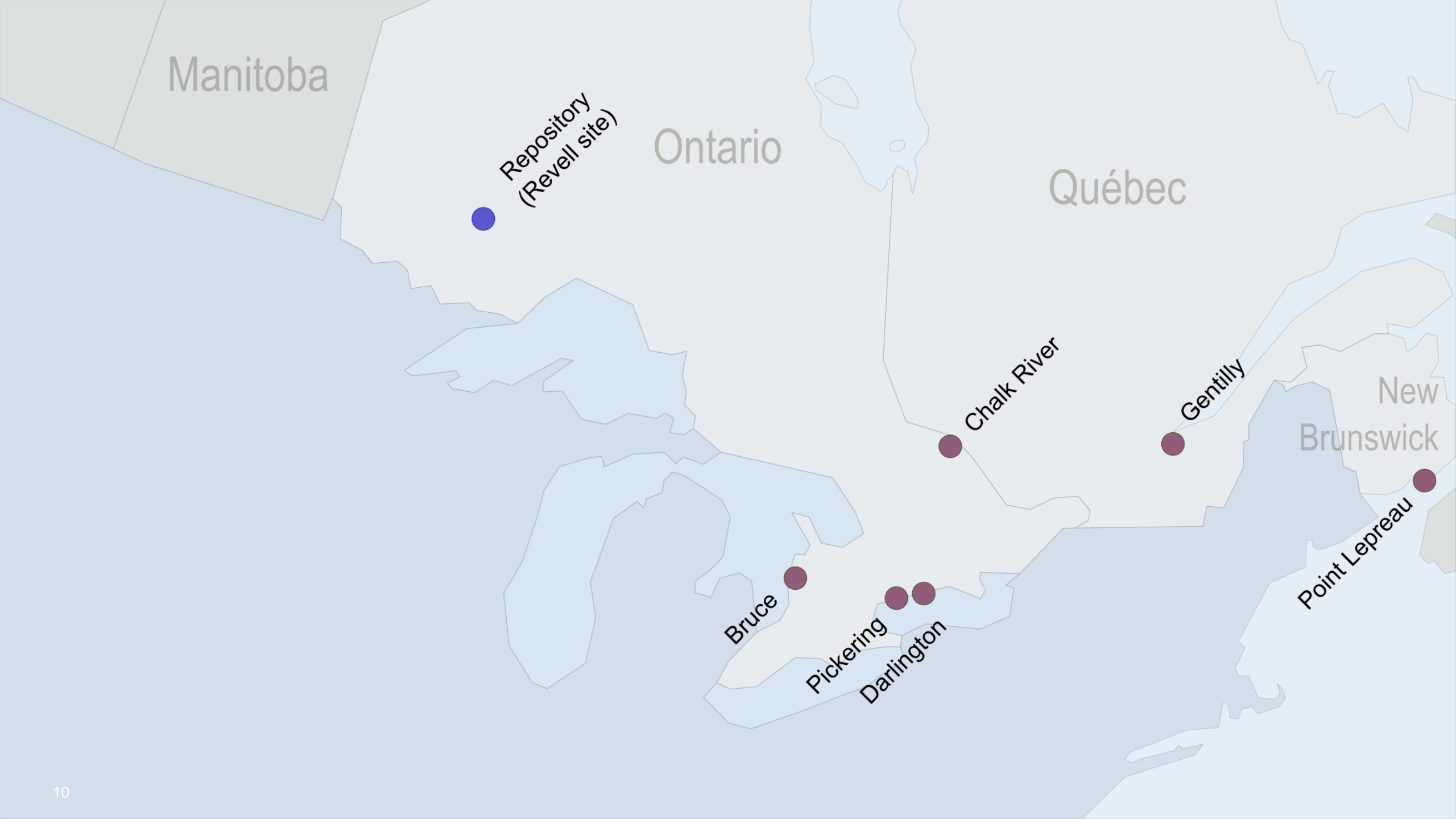
Roadmap to transport operations



Transportation Packages



UFTP	192 bundles (2 modules)	BTP	120 bundles (2 baskets)	DSC-TP	384 bundles (4 modules)
Weight	35 tonnes loaded	Weight	28 tonnes loaded	Weight	100 tonnes loaded
Truck	legal weight & size	Truck	legal weight & size	Truck	superload
Cert.	CDN/2052/B(U)	Cert.	Not yet certified	Cert.	CDN/2054/B(U)



Manitoba

Ontario

Québec

New Brunswick

Repository
(Revell site)

Chalk River

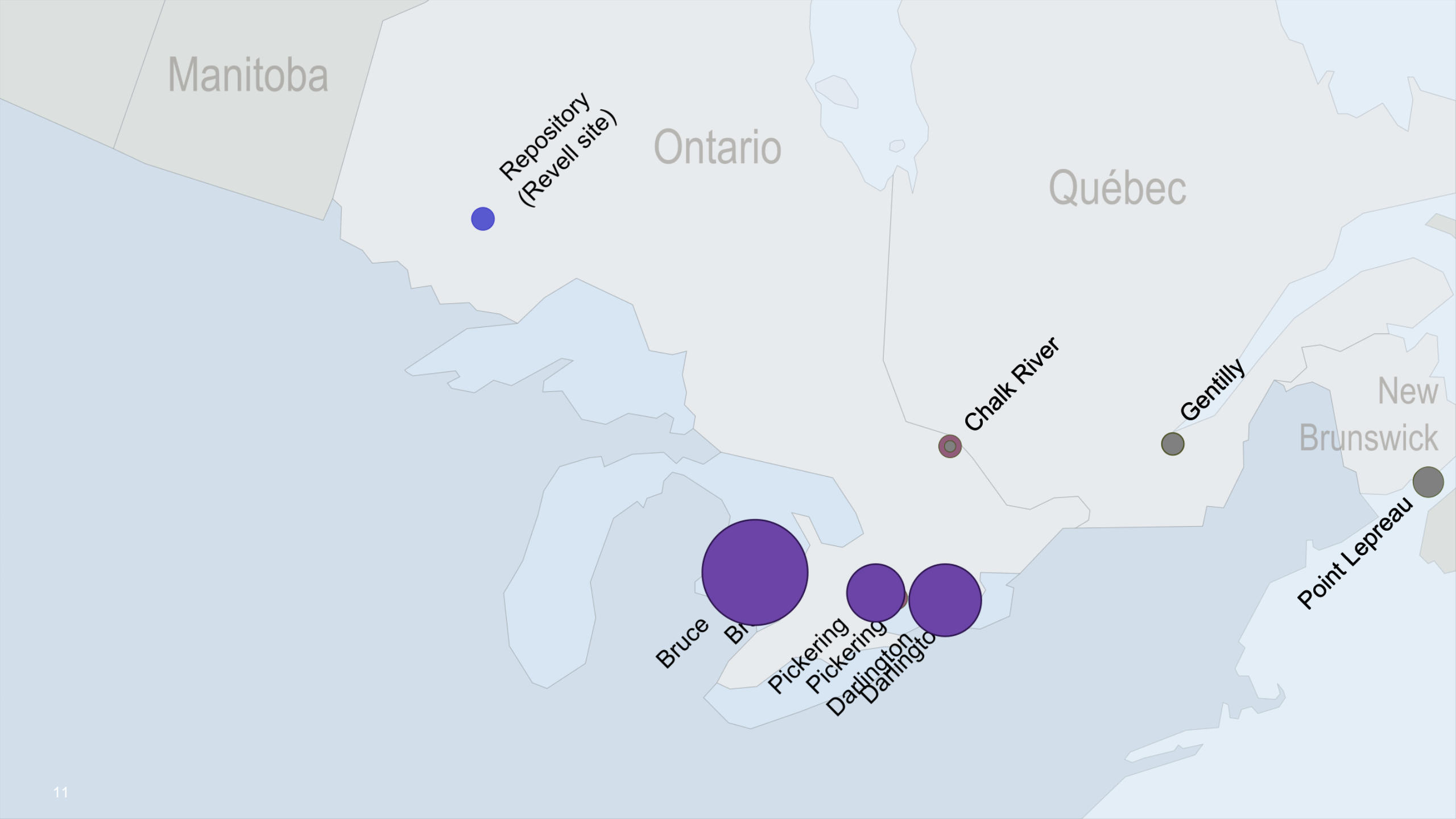
Gentilly

Point Lepreau

Bruce

Pickering

Darlington



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Chalk River

Gentilly

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Br

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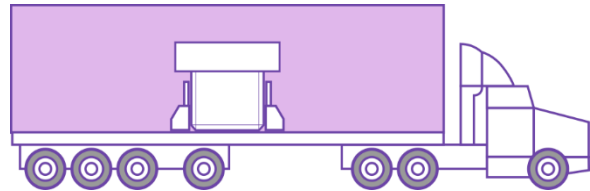
Pickering

Darlington

Darlington

Point Lepreau

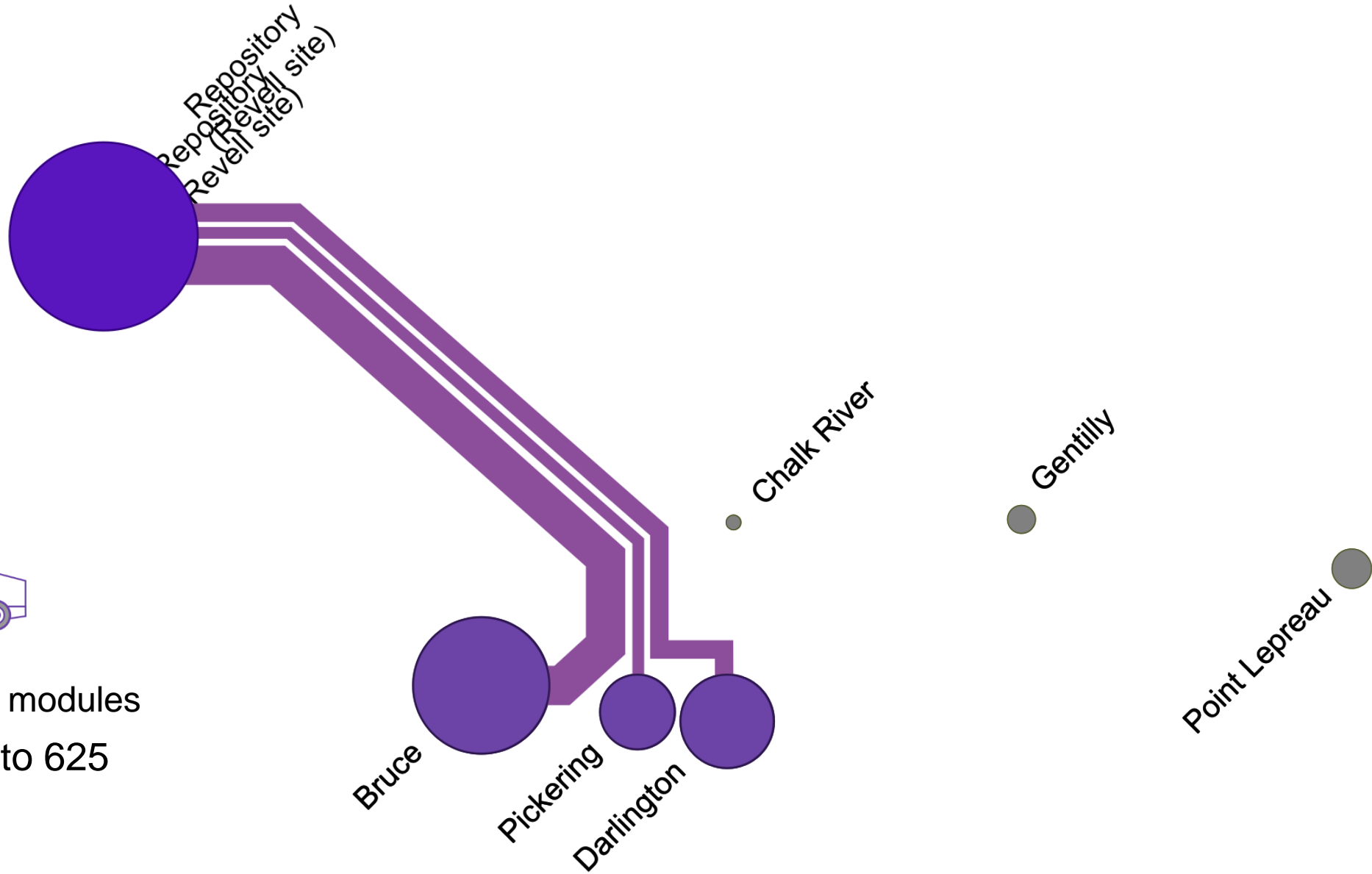
Road mode



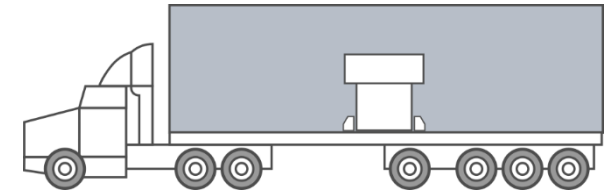
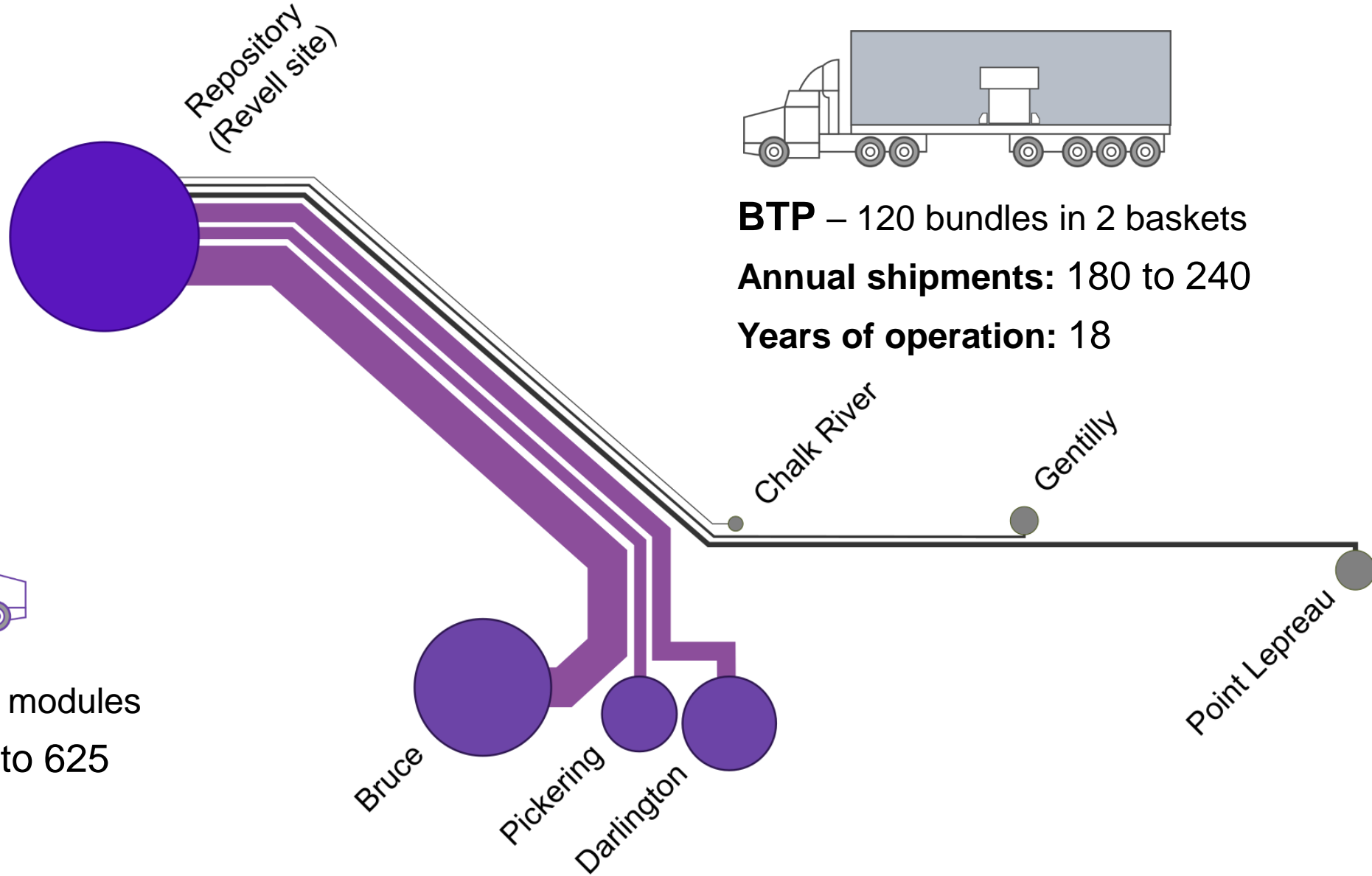
UFTP – 192 bundles in 2 modules

Annual shipments: 450 to 625

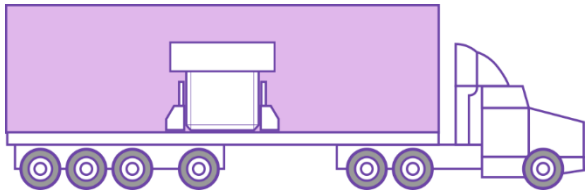
Years of operation: 50



Road mode

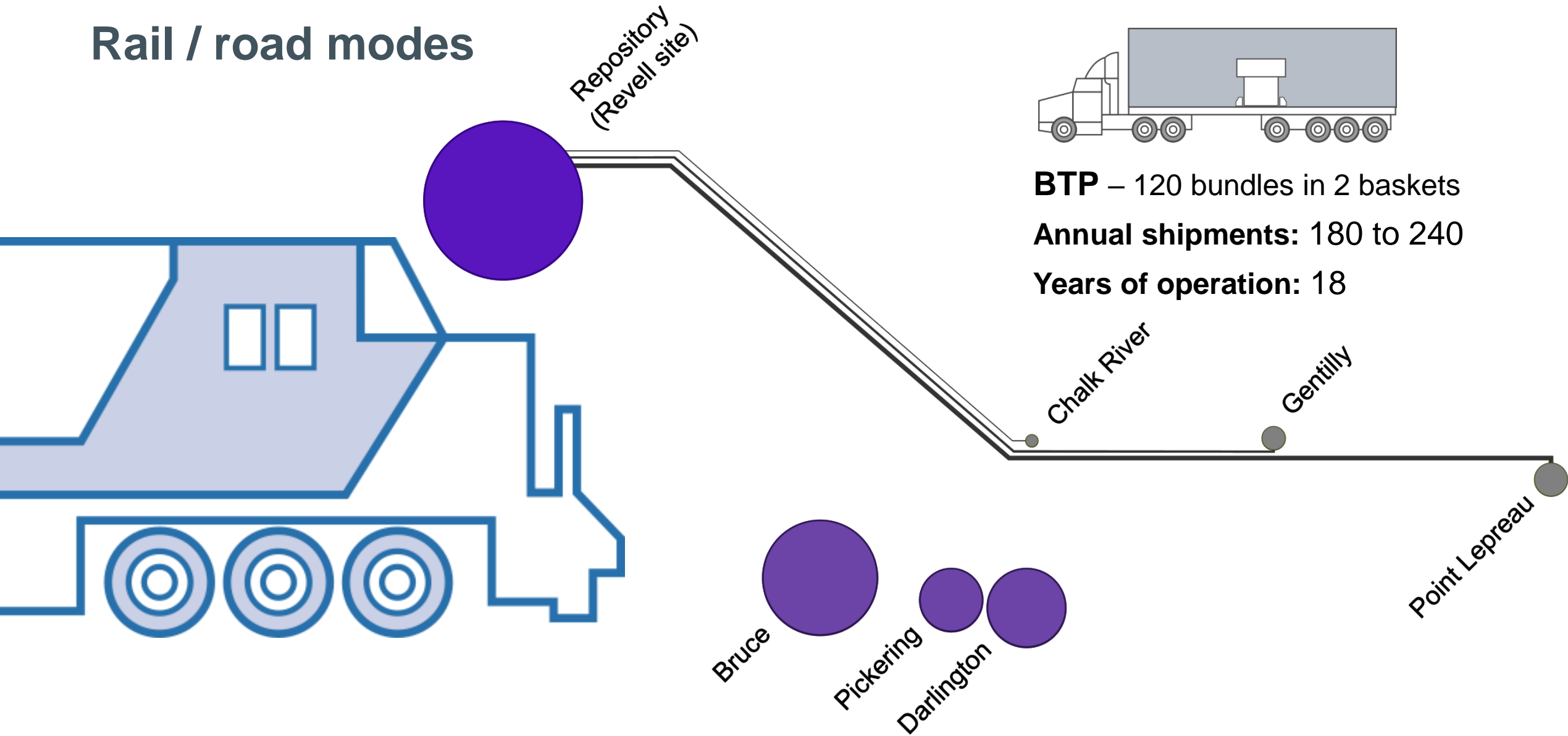


BTP – 120 bundles in 2 baskets
Annual shipments: 180 to 240
Years of operation: 18

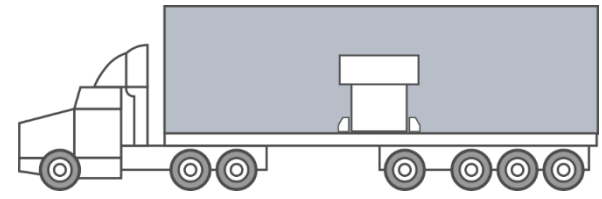
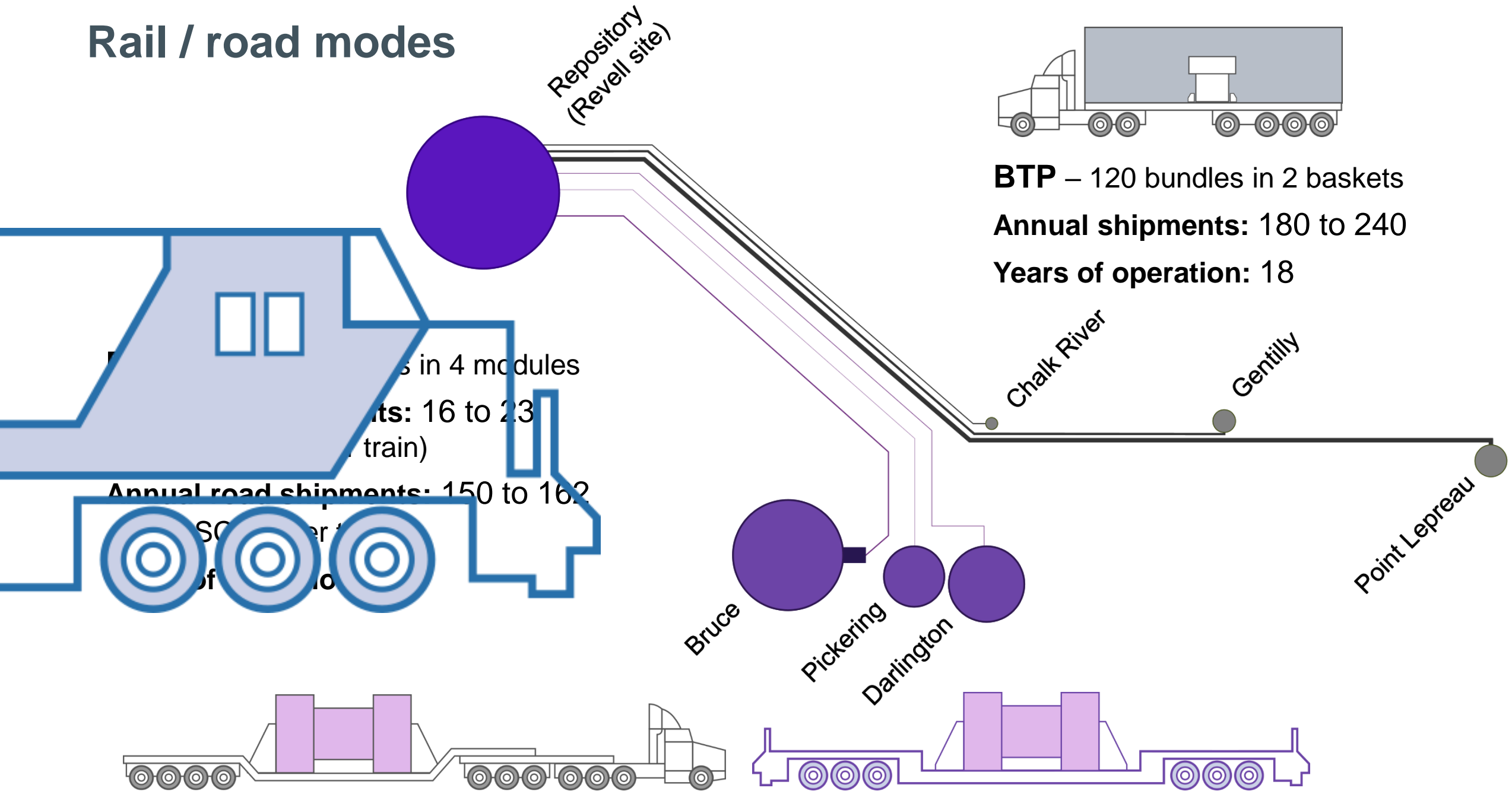


UFTP – 192 bundles in 2 modules
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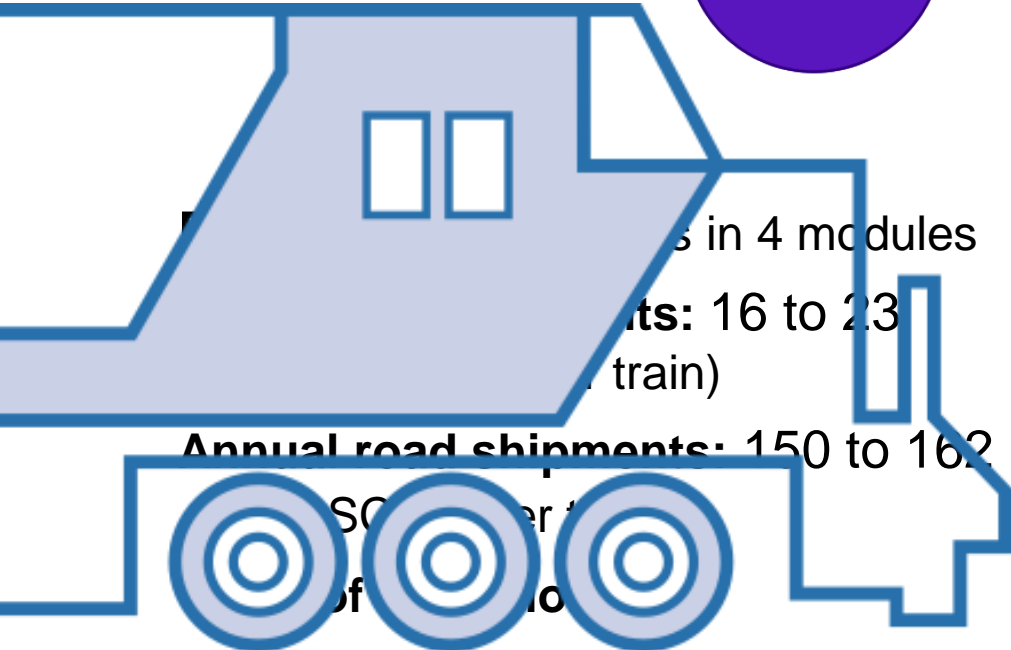
Rail / road modes



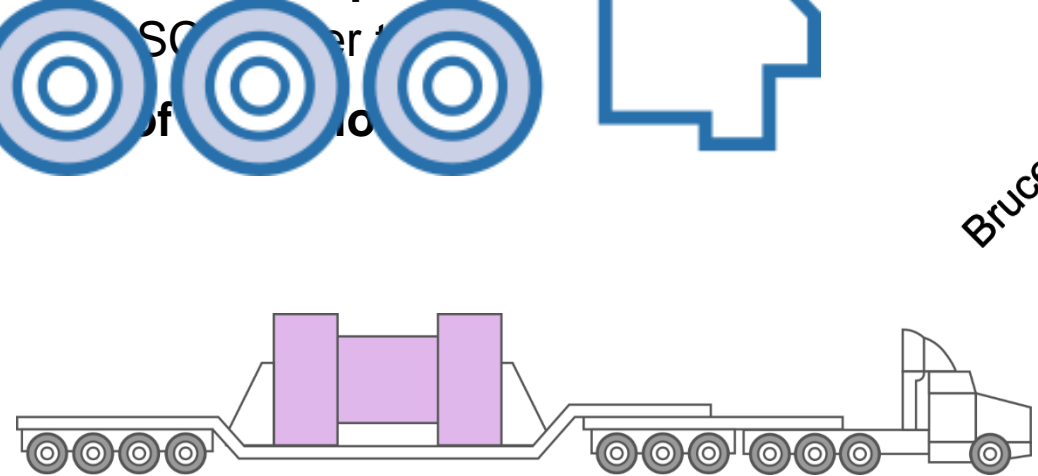
Rail / road modes



BTP – 120 bundles in 2 baskets
Annual shipments: 180 to 240
Years of operation: 18



in 4 modules
units: 16 to 23 (train)
Annual road shipments: 150 to 162



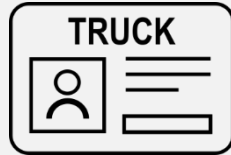
SC per t
of no

Driver qualifications

Minimum requirements

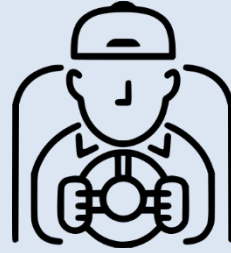


High School



**Commercial
AZ license**

Requirements for TDG drivers



**Driving
experience**



Clean CVOR

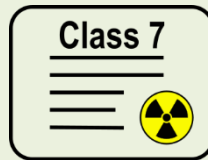


**TDG and
WHMIS training**

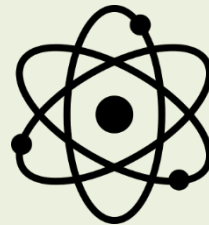
Additional requirements for Class 7 drivers



**Nuclear
security
clearance**



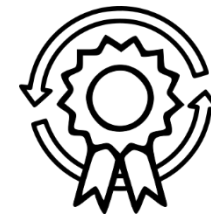
**Class 7
training**



**Radiation
protection
training**



**On-job
shadowing**



**Regular
re-qualifications**

Incident response



Readiness checklist



Site-specific preliminary transportation plan



Ongoing engagement and dialog with First Nations and Métis



Broad-based awareness and education program



Questions answered and responses broadly shared



First responder awareness program initiated



Certified transportation package designs



Potential accident scenarios identified and analyzed

Readiness checklist (continued)



Identification and incorporation of operational experience and industry best practices



Program for hiring high-quality and well-trained workers



Procedures for safe and secure operations



Transport safety and environmental management plans



Transportation security and emergency response plans



Regular reviews of plans



Safety and security audit program



Questions?

Thank you.



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