28 FUEL ELEMENTS PER FUEL BUNDLE

End View

FUEL BUNDLE DIMENSIONS:
OUTSIDE DIAMETER = 100mm
LENGTH = 495mm
FUEL BUNDLE WEIGHT = 24.57 Kg

1 Zircaloy Bearing Pad
2 Zircaloy Fuel Cladding
3 Zircaloy End Support
4 Uranium Dioxide
5 Canlib Graphite Interlayer
6 Interelement Spacer
7 Zircaloy End Cap
8 Pressure Tube
9 Calandria Tube

Figure 1 – CANDU Fuel Bundle
Figure 2 – Fuel Module

MODULE DIMENSIONS:
LENGTH = 1.29m
HEIGHT = 0.99m
WIDTH = 0.6m

MODULE WEIGHT:
EMPTY = 204 Kg
FULLY LOADED = 2,563 Kg
Figure 3
Module Storage Cask

MODULE STORAGE CASK DIMENSIONS:
WIDTH = 2.120m
DEPTH = 2.419m
HEIGHT = 3.550m

MODULE STORAGE CASK WEIGHTS:
EMPTY = 60,000 Kg
FULLY LOADED = 70,000 Kg
(384 FUEL BUNDLES)
Figure 4 – Fuel Basket

FUEL BASKET WEIGHTS:-
EMPTY = 450 Kg
FULLY LOADED = 1924 Kg
Figure 5
Module Canister
Figure 6 – Typical Cask Transporter
Figure 7

Pickering Reactor Site - Plan
Figure 8. Pickering Site Overview.
Figure 9. Pickering Existing Cask Storage.
Figure 10
Western Waste Management Facility Showing Location of Existing and Planned Dry Storage Facilities
Figure 11. Western Used Fuel Dry Storage Facility Overview.
Figure 12
Douglas Point Storage Silos.
Figure 14
Darlington Reactor Site showing location of proposed Used Fuel Dry Storage Facility
FOR SECTION A--A SEE FIG. 16

NOTE—FIGURE SHOWS A TYPICAL 4 BUILDING STORAGE ARRANGEMENT. FOR INDIVIDUAL SITE REQUIREMENTS AND QUANTITY OF STORAGE BUILDINGS REFER TO RELEVANT SITE SPECIFIC FIGURES.

CASKS TRANSFERRED TO STORAGE BUILDINGS FROM CASK GENERATING FACILITY USING CASK TRANSPORTER

FIGURE 15
CASKS IN A STORAGE BUILDING
STORAGE COMPLEX
GENERIC PLAN
FIGURE 16
CASKS IN A STORAGE BUILDING
STORAGE COMPLEX
GENERIC SECTION

SECTION 'A–A'
SECTION THRU A SINGLE STORAGE BUILDING
NOTE: FIGURE SHOWS A TYPICAL 4 VAULT SMV STORAGE ARRANGEMENT. FOR INDIVIDUAL SITE REQUIREMENTS AND VAULT QUANTITY/ARRAY CONFIGURATION REFER TO RELEVANT SITE SPECIFIC FIGURES.
SECTION 'C–C'
TYPICAL SECTION THRU SMV VAULTS

FIGURE 19
SURFACE MODULAR VAULT
STORAGE COMPLEX
GENERIC SECTION
FIGURE 20
PROCESSING BUILDING
SURFACE MODULAR VAULT
GENERIC PLAN VIEW
Figure 24
Casks in a shallow trench
Storage Chambers
Generic Plan
USED FUEL INVENTORY
AT PICKERING REACTOR SITE:

2,421 MODULE CASKS

STORAGE SPACE AVAILABLE
FOR 2,600 CASKS
179 SPARE SPACES

FOR SECTION A-A SEE FIG. 16

NOTE: FIGURE SHOWS STORAGE REQUIREMENTS BUT DOES NOT SHOW ACTUAL BUILDING POSITIONS OR ORIENTATION

FIGURE 26
CASKS IN A STORAGE BUILDING
STORAGE COMPLEX – PLAN
OPG PICKERING REACTOR SITE
USED FUEL INVENTORY
AT PICKERING SITE:

9,684 MODULES

FOR SECTIONS SEE FIG. 18 & 19

FIGURE 27

SURFACE MODULAR VAULT
STORAGE COMPLEX – PLAN
OPG PICKERING REACTOR SITE
USED FUEL INVENTORY AT PICKERING REACTOR SITE:
2,421 MODULE CASKS

STORAGE SPACE AVAILABLE FOR 2640 CASKS
219 SPARE SPACES

FOR SECTIONS SEE FIG. 25

FIGURE 28
CASKS IN A SHALLOW TRENCH
STORAGE CHAMBERS – PLAN
OPG PICKERING REACTOR SITE
USED FUEL INVENTORY
AT BRUCE REACTOR SITE:

3,825 MODULE CASKS

104 BASKET CASKS
(AECL DOUGLAS POINT FUEL)

SPACE REQUIRED FOR 3,929 CASKS IN TOTAL
STORAGE SPACE AVAILABLE FOR 4,160 CASKS.
231 SPARE SPACES

FOR SECTION A–A SEE FIG. 16

FIGURE 29
CASKS IN A STORAGE BUILDING
STORAGE COMPLEX – PLAN
BRUCE REACTOR SITE
FIGURE 30
SHIELDED ENCLOSURE
BASKET LOADING INTO MODULE
STORAGE CASK – CVSB & CVST
AECL DOUGLAS POINT FUEL AT
BRUCE REACTOR SITE
FIGURE 31 - MODULE CASK BASKET ADAPTOR
(AECL BASKETS INTO MODULE CASKS)
BRUCE REACTOR SITE
USED FUEL INVENTORY
AT BRUCE REACTOR SITE:

15,300 MODULES
413 BASKETS (AECL DOUGLAS POINT)

FOR SECTIONS SEE FIG 18 & 33

FIGURE 32
SURFACE MODULAR VAULT
STORAGE COMPLEX – PLAN
BRUCE REACTOR SITE
USED FUEL INVENTORY
AT BRUCE REACTOR SITE:
3,825 MODULE CASKS
104 BASKET CASKS
(AECL DOUGLAS POINT)

SPACE REQD FOR 3929 CASKS IN TOTAL
STORAGE SPACE AVAILABLE
FOR 3960 CASKS
31 SPARE SPACES

FOR SECTIONS SEE FIG. 25

FIGURE 34
CASKS IN A SHALLOW TRENCH
STORAGE CHAMBERS - PLAN
BRUCE REACTOR SITE
USED FUEL INVENTORY
AT DARLINGTON REACTOR SITE :=
2,282 MODULE CASKS
FOR SECTION A--A SEE FIG 16

CASKS TRANSFERRED TO STORAGE BUILDINGS FROM CASK GENERATING FACILITY USING CASK TRANSPORTER

FUTURE STORAGE BUILDING

FUTURE STORAGE BUILDING

5 CASK STORAGE BUILDINGS

FIGURE 35
CASKS IN A STORAGE BUILDING
STORAGE COMPLEX – PLAN
OPG DARLINGTON REACTOR SITE
USED FUEL INVENTORY
AT DARLINGTON SITE :-

9,126 MODULES

FOR SECTIONS SEE FIGURE 18 & 19

1141 LOADED SMV TUBES (2 MODULE CANISTERS PER TUBE)

139 SPARE SMV TUBES

MODULE SMV VAULT
4X10 ARRAY
QUANTITY = 32

FIGURE 36
SURFACE MODULAR VAULT
STORAGE COMPLEX – PLAN
OPG DARLINGTON REACTOR SITE
FIGURE 37
CASKS IN A SHALLOW TRENCH
STORAGE CHAMBERS – PLAN
OPG DARLINGTON REACTOR SITE

USED FUEL INVENTORY
AT DARLINGTON REACTOR
SITE :–

2,282 MODULE CASKS

STORAGE SPACE AVAILABLE
FOR 2,448 CASKS
166 SPARE SPACES

FOR SECTIONS SEE FIG 25