



Completion of Milestone for Receiving Reinstrumentation Equipment from IFE

April 2021

Changing the World's Energy Future

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**Prepared for the
U.S. Department of Energy
Under DOE Idaho Operations Office
Contract DE-AC07-05ID14517**

March 1, 2021

Completion of M2CT-21IN0702026:
*Receive prototype drilling and defueling
modules for the re-instrumentation facility
procured from the Institute For Energy (Halden,
Norway) at Idaho National Laboratory*

Significance of achieving this milestone:

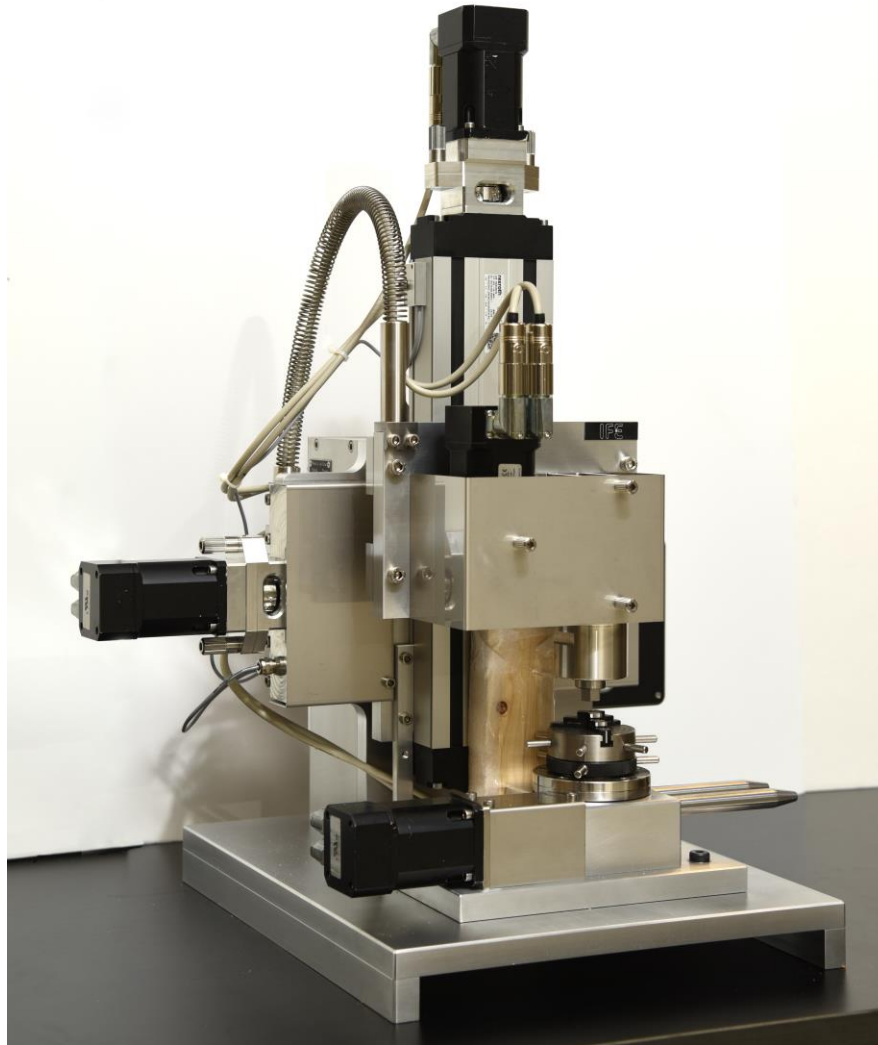
- Prior to 2018, the U.S. DOE and the commercial nuclear industry relied upon the Halden Reactor Project's capability to refabricate and reinstrument previously irradiated fuel rods. This capability has now been lost.
- This activity is key to recovering that capability and enabling the continuation of critical research on commercial and advanced LWR fuels.
- This is part of a broader effort to transfer the expertise developed at Halden to other irradiation facilities such as TREAT and ATR.



The equipment was received on 2/10/2021, consisting of:

- Two equipment modules (a defueling unit and a drilling unit)
- A control panel to run both equipment modules
- A crate of accessories (hoses, cables, etc.) to support the equipment modules

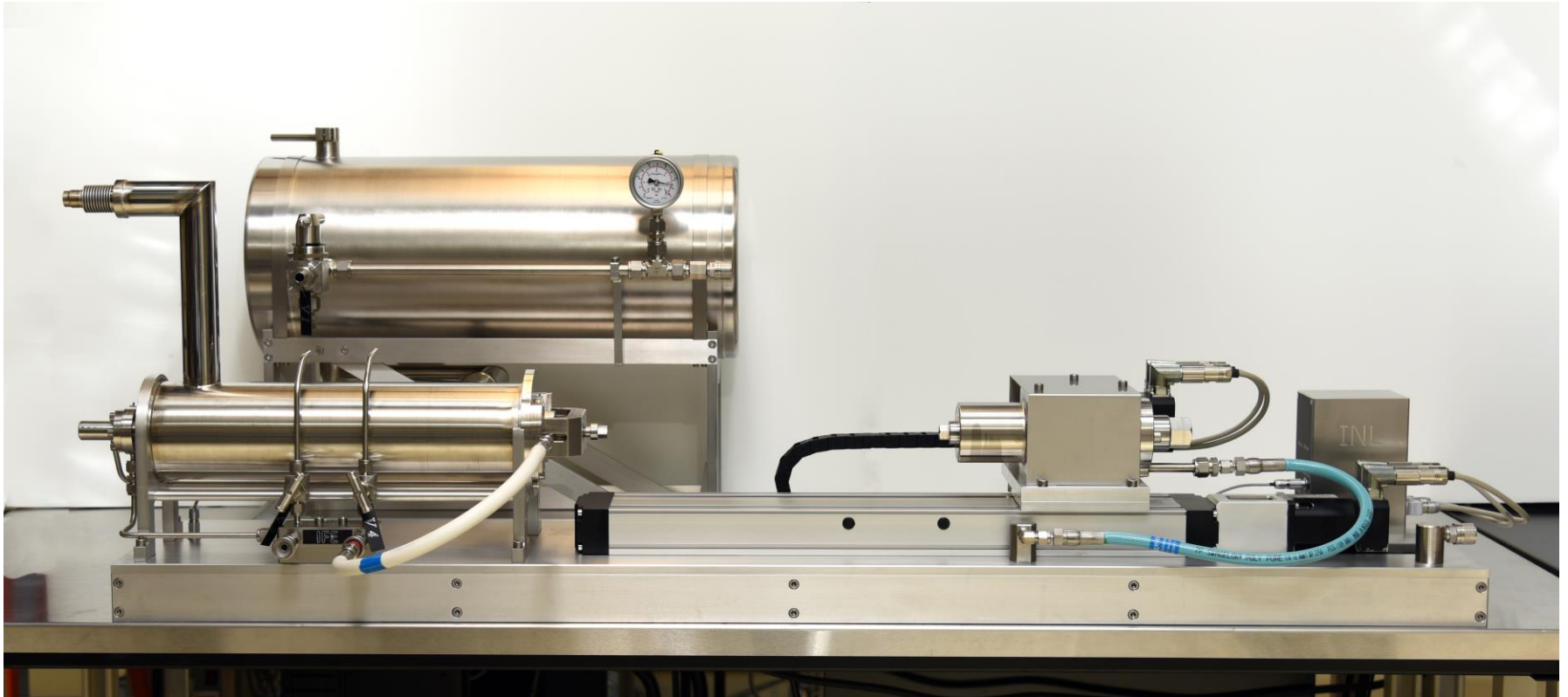
Defueling module



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Drilling module



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Control system



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Accessories and support components

CRATE 5		Gross Weight: 206,5 kg	Net Weight: 127,5 kg
No.	Item	Quantity	
4.0	Controller system parts: PC/workstation Display unit Power cable for controller unit Power cable for the display unit Communication cable RCU RCU cable Signal cable for connecting the modules to the controller unit Power cable for connecting the modules to the controller unit Emergency stop unit Diagnostics cable for the Trio motion controller MC405 PC/workstation	1 pc.	
1.0	Drilling unit parts: Vacuum pump for drilling unit Hose for vacuum pump Hose for pumping vacuum in the insulating chambers Filter unit for drilling unit; 15 µm filter preinstalled N ₂ tank PT100 level gauge assembly N ₂ tank PT100 level gauge protection shield N ₂ tank vacuum tube Bellows connection assembly Klinger Ballostar N ₂ valve		
3,0	Defueling unit parts: Pellet cover rack assembly Pellet cover assembly		
1.1	Accessories: Spare filter unit for drilling unit; 60 µm filter preinstalled	1pc	
1.2	Fuel rod front adaptor for drilling unit	3 pcs	
1.3	Fuel rod rear adaptor for drilling unit	3 pcs	
1.4	Filter for the drilling unit, 15 µm	2pcs	
1.5	Filter for the drilling unit, 60 µm	1pcs	
1.6	Metal C-ring, large, for drilling unit	2pcs	
1.7	Metal C-ring, medium, for drilling unit.	3pcs	
1.8	Copper seal for the bellows assembly	2pcs	



Look ahead

This milestone consisted of simply receiving the equipment at INL. A follow-on milestone, M3CT-21IN0702027 (due 12/31/2021), covers startup and checkout activities.