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Additive Manufacturing for Reactor Materials & Components

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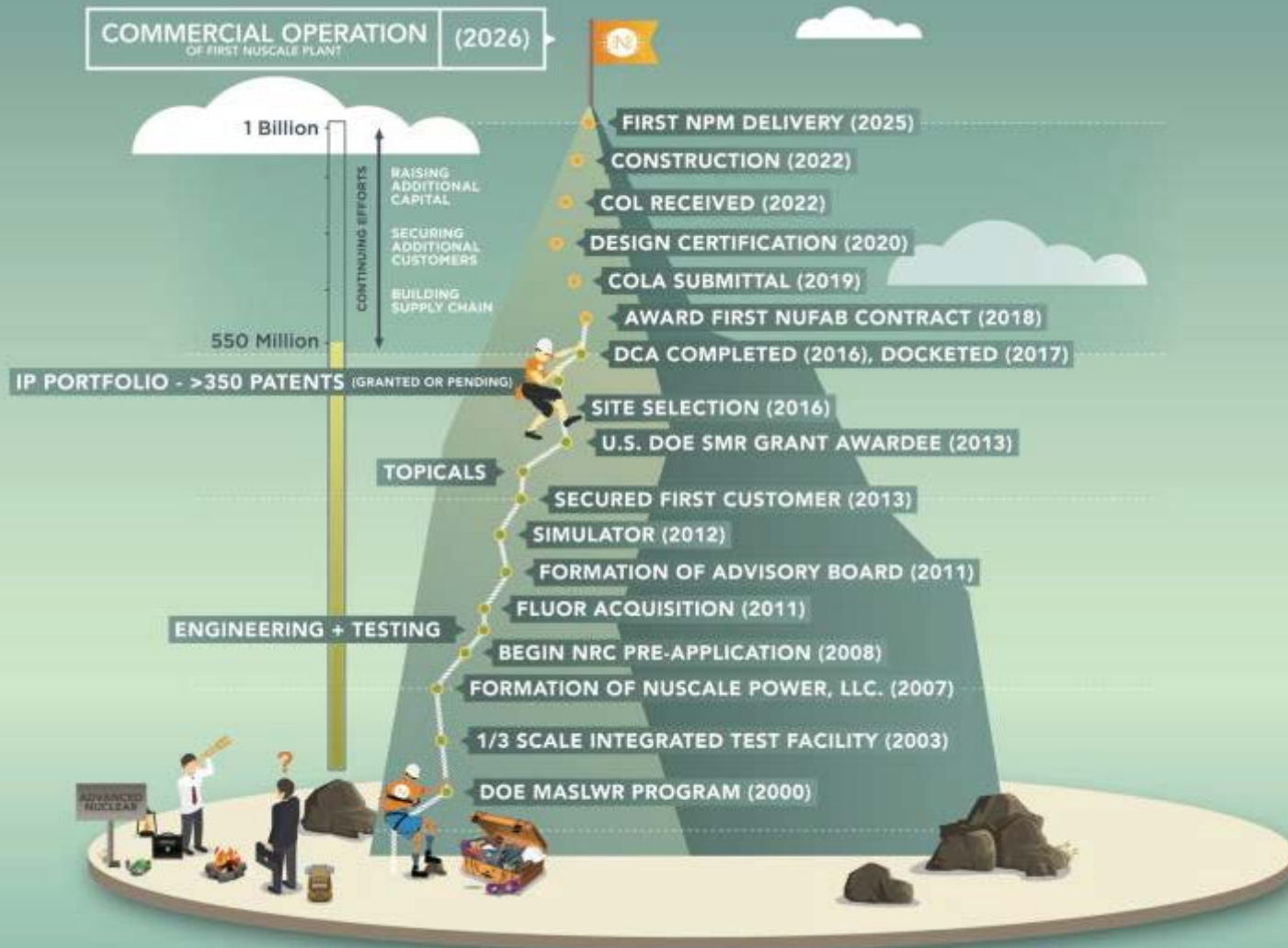


Acknowledgement & Disclaimer

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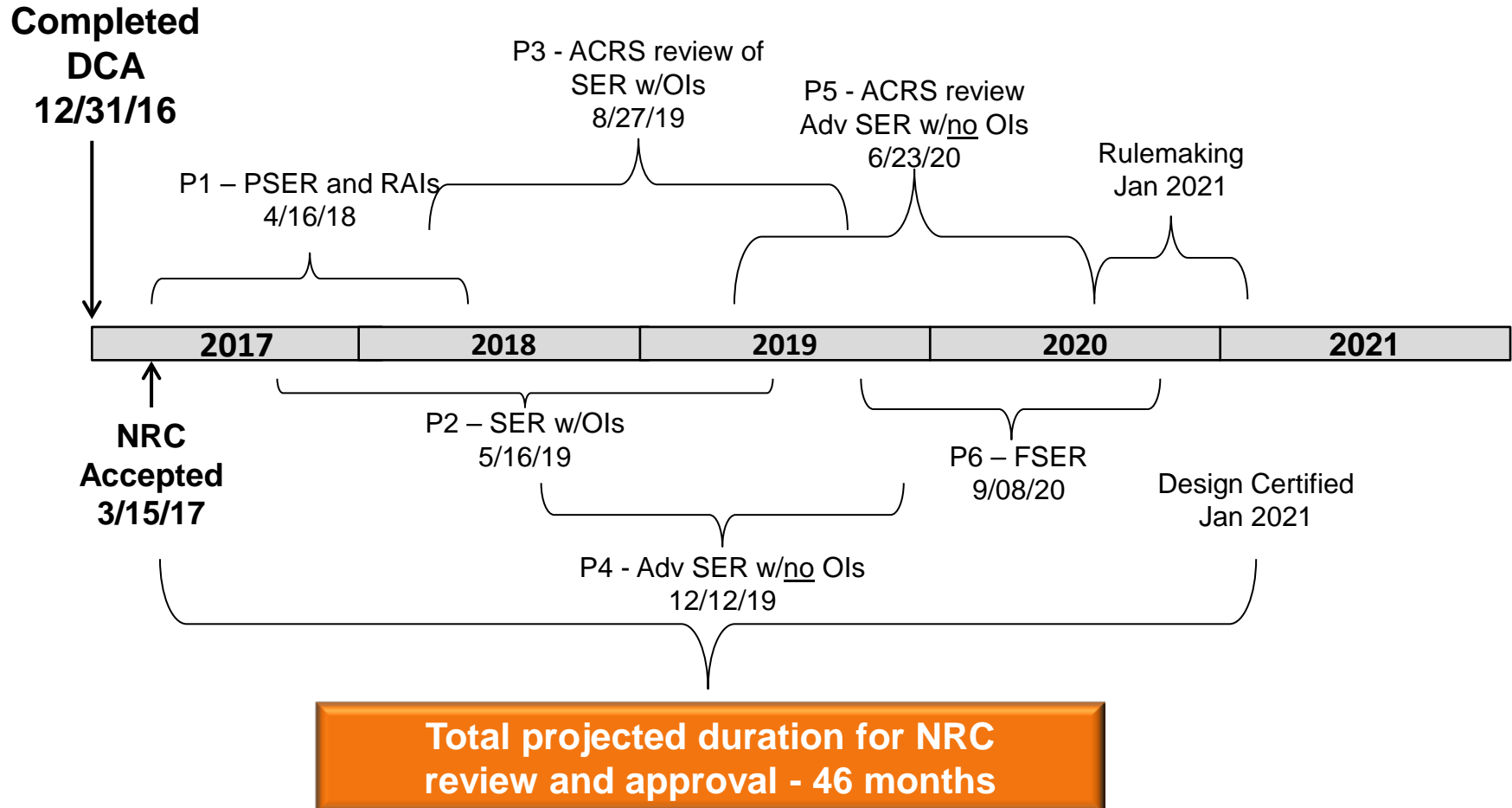
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Blazing the Trail to Commercialization



Achieving a Successful Review

NuScale Baseline DC Review Schedule



NuScale Supply Chain Characteristics

- Unique—not like a traditional power plant
- Steady-state manufacturing vs. construction job
- Select and develop a set of supplier partners for all NuScale plants, not a bid list for one plant
 - close partnerships are critical
 - pricing models and terms negotiated in advance
 - suppliers are vested in the long term viability of NuScale
 - standard specifications

Supply Chain Focus Areas

- Selection of Fabrication Partners
- Design for Manufacturing, Assembly, Transport
 - Iterative Design (listening to suppliers)
 - Component prototyping
 - Maintain Standardization (GD&T windows, interfaces)
- Sustaining a long term supply chain
- Maintaining focus on the goal of a purpose built factory
- Uniquely positioned to take advantage of advanced manufacturing techniques (shop based fab)

Manufacturing Related Activities



Manufacturing Related Activities

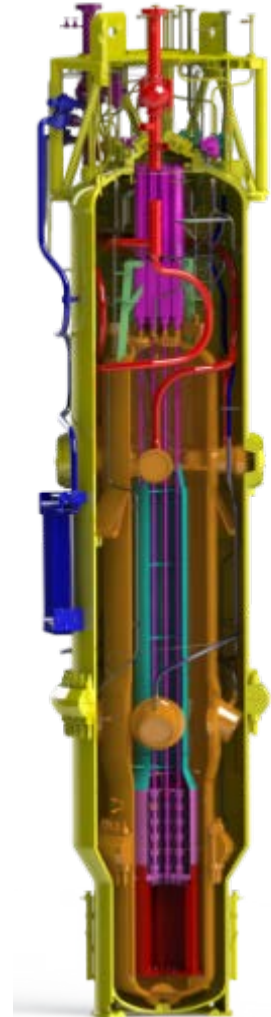


Advanced Manufacturing Cooperation



Potential Applications for AM in the NPM

- Reactor Vessel Internals
 - HCSG Tube Supports
 - CRDS Supports
 - CRA Cards
 - Fuel Pins
- Integral Safe Ends
- Sub Supplier Components
 - Fuel Assembly
 - Valve Internals
 - Latch Mechanisms

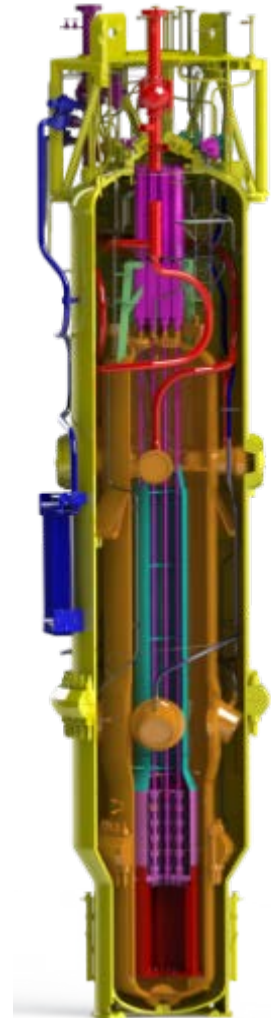


Advanced Manufacturing Mandate

- Does NuScale need advanced manufacturing?
 - Reduced production schedules ✓
 - Reduced module cost ✓
 - Reduced module weight ✓
 - True Nth-of-a-kind production ✓

~~*“That’s the way we’ve always done it”*~~

- What’s a NuScale Module look like in 10 years?
 - Traditional forgings
 - PM-HIP complex shapes
 - Additive Manufactured parts
 - Traditional welds
 - Advanced joining techniques
 - Laser clad components



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