

Yes, NASA, a project can be cancelled

May 2, 2023

NASA Cost and Schedule Symposium

Prologue

The development of robotic spaceborne instruments and associated spacecraft continues to be one of the most technically challenging endeavors

This discussion is not intended to assign attribution to any project, organization, or person

It is intended to share the experience for the hopeful benefit of the NASA Cost and Schedule Community

Project Background

Single Instrument Project

Hosted on Commercial Communications Satellite

Geostationary Orbit

Competitively Selected, PI-led Mission

Non NASA Center or FFRDC led project

Cost Capped Mission

- Informed at selection and based on mission proposal

Cost and Schedule

Independent Cost and Schedule Estimates indicated likely exceedance of cost cap immediately following selection

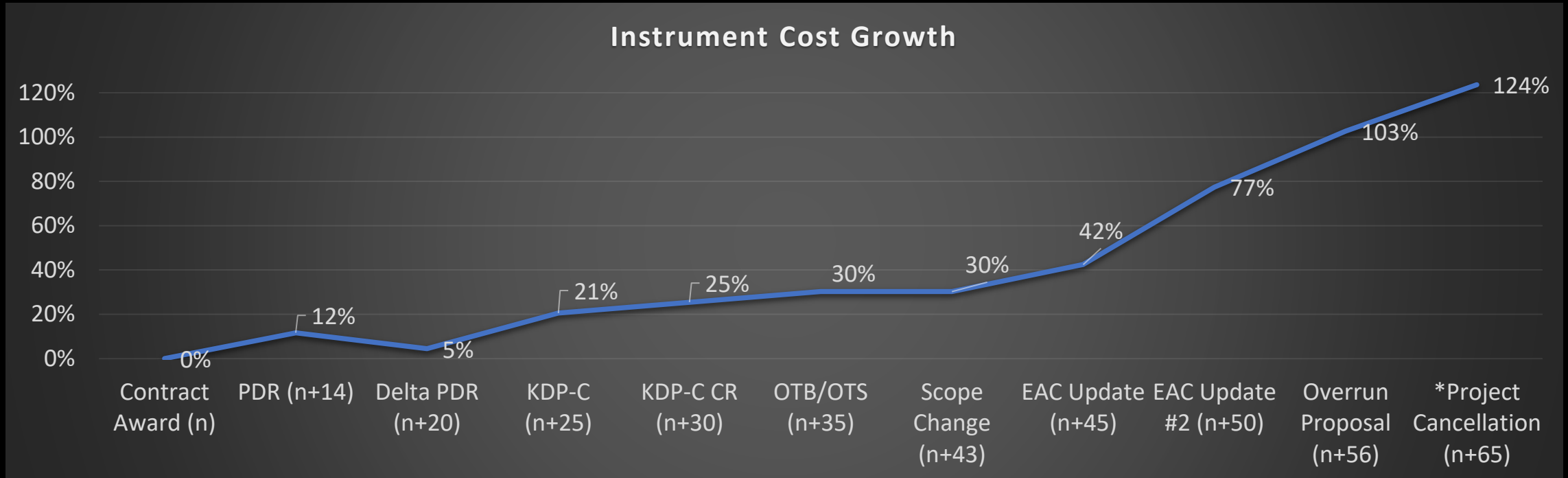
- Following assessments continued to indicate likely exceedance of cost cap

Commercial hosting partner lost as a result of spectrum relocation payments from the FCC

- Prior to this, estimated significant cost increases based on instrument mass growth and market-driven factors

Project identified in NASA appropriations

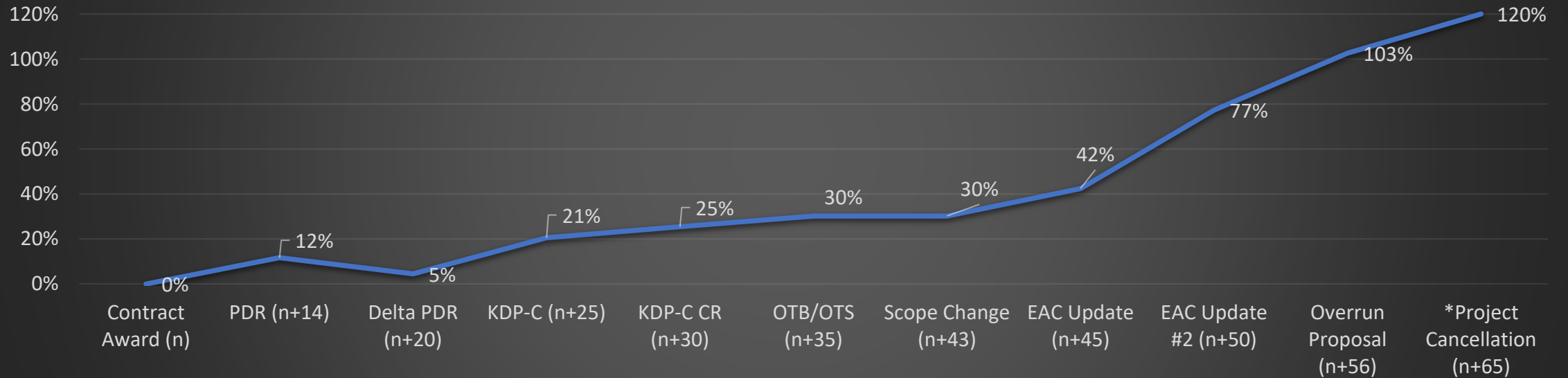
Performance



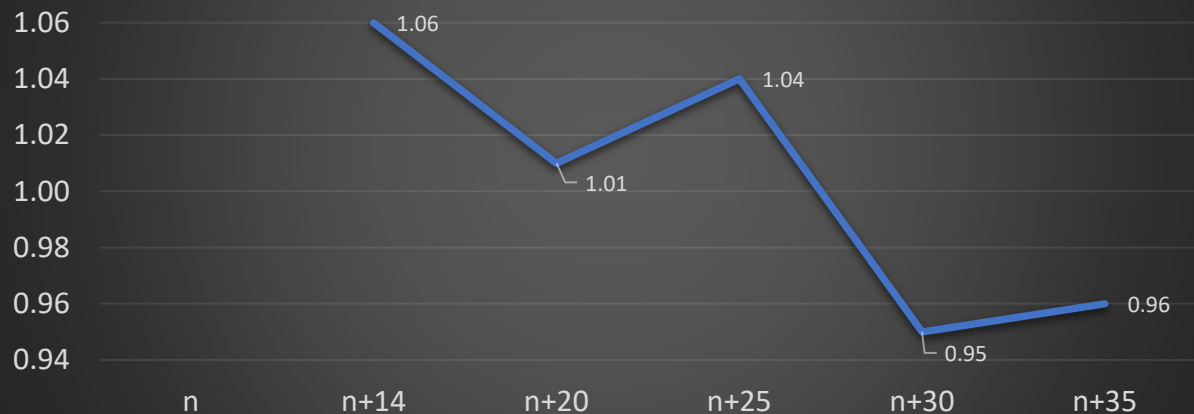
*projected

Cost reduction due to instrument simplification to address issues at PDR.

Instrument Cost Growth



Cumulative CPI



21% cost growth with a Cumulative CPI performance of > 1.0 at n+25

Integrated Master Schedule examination critical to understanding of performance

Assessment

Project underwent several single point adjustments, replans, and a rebaseline

Assessments of each event continued to estimate the likely exceedance of new cost caps

Cost Cap was not exceeded

Ability to perform to plan was consistently a challenge for the project

Management

Traditional cadence of management insight and oversight (daily, weekly, monthly) was conducted throughout the lifecycle

Extra Support

- Project presented to and discussed performance with the Mission Directorate Associate Administrator on a monthly basis prior to cancellation

For This Community

Assessments were developed for five years that estimated the cost and schedule growth the project experienced

Assessments were appropriately considered but other factors influenced early risk/reward-based decisions

Lessons

Remain objective

Remain engaged

Remain focused on quantifiable information

Appropriations language and sunk costs (costs to date) contributed to continuance of the project

Cost and schedule risk of project to broader program and division portfolio coupled with technical risk ultimately led to cancellation

Without continued engagement, estimation, and assessment the decision to cancel would not have been made

Audience

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