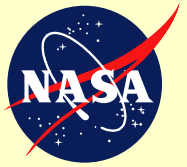


# ARISS OPERATIONS SCHOOL CONTACTS

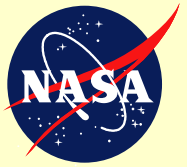
**December 2002**

**Tim J. Bosma**



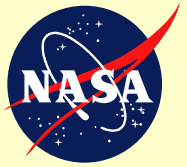
# ARISS-OPS SCHEDULING

- **12-24 MONTHS (before contact)**
  - School application accepted and sent to OPS group.
  - School merged into Pending List.
  - Crew Pick schools merged at 3 to 6 month timeframe.
- **3 – 4 MONTHS**
  - ARISS mentor assigned to the school.
  - Contact & scheduling information verified.
- **2 - 3 MONTHS**
  - School moved to the active list.
  - Long term pass predictions made to determine “best week” for contact.



# ARISS-OPS SCHEDULING

- **1 – 2 MONTHS**
  - School is prepared for contact by ARISS mentor.
  - School summary & questions submitted.
- **3 WEEKS**
  - School specific pass predictions generated. (Direct – Bridge)
  - ISS operational considerations checked.
  - School is scheduled for a specific week based on optimal passes.
  - Contact Request is submitted with 2 or 3 contact time options to BME
- **1 - 2 WEEKS**
  - Mentor continues to prepare school for contact.



# ARISS-OPS SCHEDULING

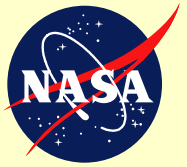
- **7 - 10 DAYS**
  - ARISS-OPS is advised of selected pass for contact by JSC.
  - If it's a bridge contact then Worldcom is scheduled.
  - MSNBC is notified.
- **24 Hours**
  - 24 Hour Notice from school confirming readiness for contact.
- **1 Week after contact**
  - NASA web page questionnaire is completed by school.
  - School is moved to Completed Contacts status.



# ARISS-OPS

## SCHEDULING CHALLENGES

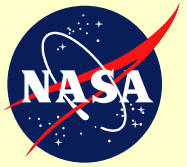
- **ISS scheduling constraints include:**
  - Time before, during & after EVA's & Dockings
  - Initial time for each Increment to “ramp up.”
  - Crew sleep shifts.
  - Crew work time versus crew free time.
  - Educational activities are scheduled on a non-interference basis.
- **School scheduling constraints**
  - Lack of flexibility on schools part.
- **Soyuz Taxi Flight Astronauts & Passengers**
  - Integration of their contact requests into School list(s).
- **Special Events**
  - Marconi Centenary Celebration
  - JOTA – Jamboree



# ARISS-OPS

## SCHEDULING CHALLENGES

- **Third Party Contacts**
  - 60% of ARISS completed school contacts are direct.
  - Requests from international schools for direct contacts potentially in conflict with current international 3<sup>rd</sup> party agreements.
  - There is a need for an international exemption for ISS contacts.



# ARISS-OPS SCHEDULING

## **IMPROVEMENTS ARE HAPPENING !**

- “Best weeks” predictions.
- TOPO now involved in final pass predictions.
- Crew Picks are now identified sooner.
- Earlier notification of selected contact times.
- Better understanding of operational impacts on scheduling.



# ARISS-OPS

## What's Needed Next?

**Continue ongoing evaluation and improvement of ARISS-OPS.**

**Model the working agreement with TOPO & Gilbert Carman.**

**Improve the information flow in both directions.**

**Train additional school mentors.**

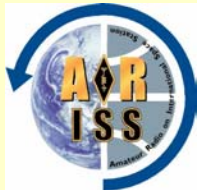
**4-5 people are doing the bulk of the work.**

**Develop technical support for the hams at the school.**

**Kerry Banke's phone patch.**

**Antennas**





# ARISS-OPS Conclusion



**This program is a winner for the schools and the ISS crew members.**

**Carl Walz KC5TIE:**

"It was great talking to the folks at ZPS. They had great questions, and everything worked out exactly as planned. Looks like I'll have a chance to do a few more school contacts with our extra time up here."

**Dan Bursch KD5PNU:**

"Please pass on my many thanks to whoever helped set this contact up (St. Thomas)..it was a lot of fun, and I am ready to do these ANYTIME!!!"

**Sandy Shutey - Teacher - Butte High School, Butte Montana**

"This was a once in a lifetime experience for the students and myself."