SPACEFLIGHT

Russians at sea over Atlantis
BY TIM FURMSS

A

conflict between the Rus-
sian Space Agency (RKA)
and NPO Energia is delaying
the finalisation of plans for the
flight of the US Space Shuttle
Atlantis STS71 to dock with the
Mir space station in June 1995.
Former astronaut Guy Gard-
ner, who heads NASA's Russian
programmes office, says that he
would like to fly two cosmo-
nauts aboard the Atlantis to
begin a new shift on the Mir
and bring the two resident
cosmonauts and their US astro-
naut guest back from their
space stint.

While the RKA agrees, NPO
Energia does not want to inter-
fere with training regimes. The
present Russian programme is
planned to start with the Nov-
ember launch of veteran Rus-
sian cosmonaut Sergei Kri-
kalyov aboard the Discovery for
a routine STS60 mission, last-
ing about a week.
The flight may be delayed to
early 1994, after the Hubble
space repair and servicing mis-
sion has taken place, because
of delays to the latest Discovery
mission, the STS51.
The Discovery would then be
prepared for the STS63 flight in
mid-1994, which Gardner con-

Krikaloyov stays buoyant at NASA while Russia maintains training debate

firms will be used to conduct
a practice rendezvous and sta-
tion keeping with the Mir.
Gardner would like Krikalyov's
back-up, Vladimir Titov, to be
flown on the STS63, but the
Russians have not yet agreed.
The STS63 will keep station
at a distance of 200m. Ground
controllers will practise com-
munications co-ordination,
while communications between
the Shuttle and the Mir will be
assessed, using a specially de-
veloped radio.
In March 1995, a NASA as-
tronaut will be launched to the
Mir aboard a Soyuz booster
from Baikonur and the Atlantis
will dock in June, remaining
attached to the Mir for five
days of joint activities with a
Spacelab module for additional
life-sciences work.

The Atlantis will be equipped
with a $47 million docking-
port/airlock, fitted with a Rus-
sian androgynous adaptor. The
airlock will be mounted in the
payload bay, which is attached
to the tunnel running from the
orbiter's airlock to the Spacelab
module.

USA counts the cost of satellite design
T

he US General Accounting
Office says that the Depart-
ment of Defense could save $18
billion by selecting a standard-
ised design for its communi-
cations satellites.

The Congressional watchdog
favours an Advanced Research
Projects Agency proposal for a
dual system of satellite buses,
weighing 300kg and 1,000kg.
The US Air Force has already
proposed the production of a
single common spacecraft bus
for multiple applications,
which would cut $10 billion
from the budget.
The two major large-scale
projects, the US Navy UHF
Follow On and US Air Force
Defense Space Communica-
tions System spacecraft, are
built by Hughes and Martin
Marietta Aerospace.
Lockheed is building the
new Milstar fleet. Smaller com-

munications satellites are flown
for multiple access, digital data
and specialist applications.
Congress' Office of Technol-
ogy Assessment (OTA) has al-
ready called for rationalisation
in the design of the USA's
range of remote-sensing and
environmental-monitoring
spacecraft, firstly combining

the US Defence Meteorological
Satellite Programme and the
civilian Tiros/NOAA projects.
Recognising the USA* plan
to invest $30 billion in remote-
sensing technologies to the
year 2000, the OTA believes
that it makes sense for the
Pentagon, NASA and NOAA to
merge their programmes. D

China forms national space agency C

hina has established a Na-
tional Space Administra-
tion, primarily to boost
satellite-technology exports
and to capitalise on the relative
success of the country's
launcher business.
The new concern will incor-
porate China Aerospace, to
which Long March booster
manufacturer China Great Wall
Industry reports.

China has also established
China Satellite Launch Agents
Hong Kong to market launch-
ing, piggyback payloads, recov-
ery and tracking services "at
40% less than other compa-
nies". The Asia Pacific market
is a rapid-growth area and
China has already won con-
tracts to launch Asia Pacific
company's APStar 1 and Asia-
sat's second spacecraft. D

The Shuttle may carry 500kg
of Russian equipment to the
Mir and return with 1,000kg,
in the form of a failed gyrodyne
component, says Gardner.
If the Russians cannot agree,
only the US astronaut will re-
turn aboard the Atlantis. Ger-
many has requested that NASA
fly a national astronaut on the
Atlantis to start a proposed
three-month mission aboard
the Mir, should the Russian
cosmonauts not be able to fly
the Shuttle mission.

Gardner says that he is look-
ing at possible future US astro-
naut/Shuttle visits to the Mir
on a series of Spacelab-Mir 1
missions, as precursors to the
US Freedom Space Station. •

NEWS IN BRIEF

SIXTH ASTRA
Societe Europeenne des Sat-
ellite of Luxembourg is plan-
ning to invest in a sixth Astra
satellite, provided that the de-
velopment of digital television
channels employing signal
compression technologies re-
mains on track.

FOURTH TELECOM
Matra Marconi Space has re-
ceived the contract from
France to build a fourth Tele-
com 2 spacecraft, while the
third, the Telecom 2C, has
been earmarked for an Ariane
launch in October 1994.

NEW WINDOW
NASA's Extreme Ultraviolet
Explorer satellite has opened
a "new window on the heav-
ens", finding helium on Mars;
volcanic debris from the
moon Io, above Jupiter; and
offering new views of the
deep Universe, says NASA.

LAUNCHER RACE
In a bid not to lose out on the
international small-launcher
business, Aerospatiale is pro-
posing the development of
two satellite boosters — pos-
sibly incorporating Russian
propulsion units — to achieve
a first launch in 1995. One
off-the-shelf booster would be
used to place 400kg into low
Earth orbit at a price of $7
million, the other to place
2,800kg into a higher orbit
for $25m.

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