NEWS ROUNDUP FROM THE IAEA WORLDATOM WEB PAGES AT HTTP://WWW.IAEA.ORG

IAEA General Conference in Vienna. The 45th regular session of the IAEA General Conference opens in Vienna on Monday, 17 September, to review the Agency's programmes and set future directions for global nuclear cooperation. Items on the provisional agenda include measures for further strengthening activities related to technical cooperation, safeguards, safety, and nuclear science, technology and applications.

The General Conference will be asked to approve the re-appointment of IAEA Director General Mohamed El Baradei. *(photo)*. The IAEA Board of Governors on 14 June 2001 appointed Dr. Mohamed ElBaradei for a second four-year term as Director General, with effect from the end of November when his first term expires.

A Scientific Forum on 18-19 September will bring together leading international experts in fields of science, technology, and human development. Entitled "Serving Human Needs: Nuclear Technology for Sustainable Development", the Forum features five topical sessions, including a panel discussion of leading experts. The other four sessions will focus on science, technology, and development; the promotion of food security; the management of water resources; and the improvement of human health. *(See article and box, page 3.)*

Partners Complete Design Activities for International Thermonuclear Experimental Reactor (ITER). The long-term goal of harnessing the energy of

nuclear fusion has moved a bit closer following commemoration of a landmark scientific achievement at IAEA headquarters in Vienna. Meetings were held in July 2001 to mark the completed design of the International Thermonuclear Experimental Reactor (ITER), designed as the world's biggest fusion machine by teams of scientists and engineers around the world. (See photo.) Further talks are set in months ahead to determine ITER's future, including selection of the construction site. ITER is a multi-billion dollar fusion energy research and development experimental facility, planned by a unique international collaborative, with the goal of taking the next major step in the development of fusion energy as a safe, clean and sustainable energy source.

During the week 16-20 July 2001, several meetings related to the ITER Engineering Design Activities (EDA) took place at the IAEA. The ITER Council held its final meeting to discuss the arrangements for the closing of the EDA, which had been conducted by the ITER Joint Central Team and the ITER Parties' National Teams during the period 1992-2001.

During the EDA, hundreds of leading scientists and engineers participated in the scientific research, development and design, aimed at having the engineering design of the ITER machine completed. These results provide for the first comprehensive design of a fusion reactor based on well-established physics and technology. The ITER design documents would be sufficient, when complemented by site-specific adaptation of the design, to provide the necessary technical basis for a construction decision.

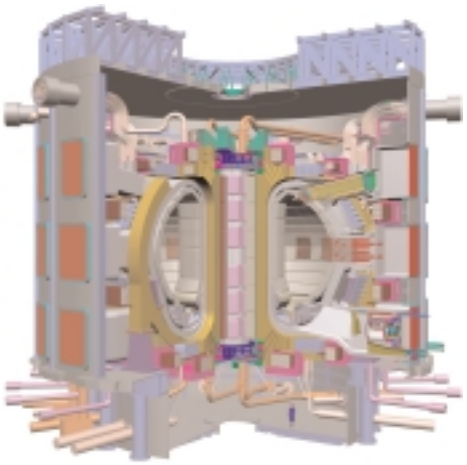
Speaking at the closing ceremony to commemorate the successful completion of the ITER EDA, the Chairman of the ITER Council, Academician E. Velikhov of the Russian Federation, reviewed milestones in global fusion cooperation. He noted that the work on the development of an international thermonuclear reactor had started under the auspices of the IAEA in 1978 as the INTOR (International Toroidal Reactor) Project, had then continued during 1988-1990 as ITER Conceptual Design Activities and, finally, upon the Agreement of the four initial ITER Parties (the European Union, Japan, Russian Federation, and United States), was followed by the ITER EDA. He thanked the IAEA for the constant support of the research and development in the field of plasma physics and fusion energy.

IAEA Director General ElBaradei commended ITER's

progress as an "excellent demonstration of international collaboration". The EDA completion through the work of scientists and engineers worldwide represents "no small achievement," he said, adding that he was pleased to note the IAEA's longstanding association with ITER and its predecessor projects.

In the months ahead, there will be intergovernmental discussions (called "Negotiations" by ITER Parties) towards the realization of the joint implementation of the ITER Project, including the decisions on sharing the costs and the site selection for the construction of ITER. Canada has already offered a site located near the Darlington Nuclear Power Station on the shore of Lake Ontario, and sites at Cadarache, France, and in Japan may also be offered. The construction costs would be in the range of US $4 to $5 billion and construction may start in 2003.

The ITER machine, if built, would test the plasma burning and demonstrate the feasibility of using energy generated by nuclear fusion, its safety and environmental acceptability to the decision makers and to the public at large. In preparation to the construction of ITER, the current ITER Parties (Canada, the European Union, Japan, and Russian Federation) will be involved, under the auspices of the IAEA, in the Coordinated Technical Activities until the end of 2002.



Main parameters and dimensions:

Total fusion power:	500 MW
Fusion power/auxiliary heating power:	≥ 10
Average (14 MeV) neutron wall loading:	0.57 MW/m^2
Plasma major radius:	6.2 m
Plasma minor radius:	2.0 m
Plasma current: 15 MA	
Toroidal field at 6.2 m radius:	5.3 T
Plasma volume:	837 m^3
Auxiliary heating and current drive power:	73 MW

Safety of Radiation Sources. The IAEA Action Plan for the Safety of Radiation Sources and the Security of Radioactive Materials is being reviewed, taking into account conclusions of the latest international conference in the field. Required adjustments to the Action Plan are being submitted to the IAEA General Conference, which opens in Vienna 17 September. Earlier this year, the IAEA Board of Governors requested the review, following its consideration of a report on the International Conference of National Regulatory Authorities with Competence in the Safety of Radiation Sources and the Security of Radioactive Materials.

The Conference, held December 11-15, 2000 in Buenos Aires, provided an opportunity for information exchange among governmental regulators on a range of issues affecting the safety and security of sealed radioactive sources. It brought together regulatory officials from 57 Member States. Key issues addressed included maintaining effective control of radiation sources; locating and regaining control over lost and abandoned sources; and establishing an effective regulatory control system where none exists.

Despite the fact that sealed sources have been used for many decades in most parts of the world, challenges to controlling these sources and preventing accidents and misuse remain. In some countries, regulatory regimes do not exist or are just in their infancy. In others, changes in territorial boundaries have resulted in new governments and regulatory regimes being established relatively recently. Even in countries with well-developed regulatory regimes, there are competing priorities for regulators from such areas as nuclear power reactors and waste disposal facilities. In addition, there are some 60 States using radiation sources that are not IAEA Member States and therefore can not profit from the Agency's technical cooperation and assistance in this area.

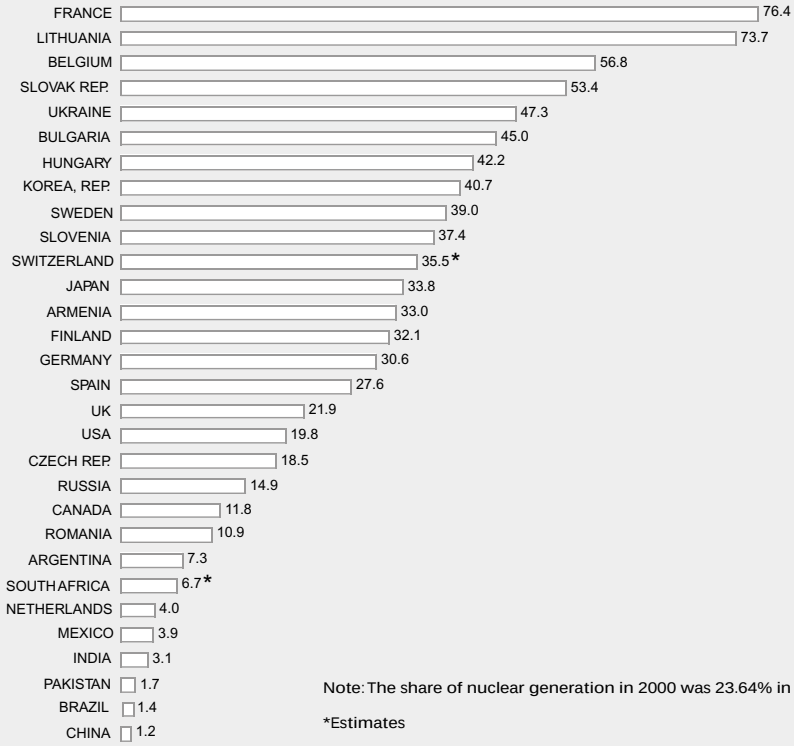
NUCLEAR POWER STATUS AROUND THE WORLD

	REACTORS IN OPERATION		REACTORS UNDER CONSTRUCTION	
	NO. OF UNITS	TOTAL NET MWE	NO. OF UNITS	TOTAL NET MWE
ARGENTINA	2	935	1	692
ARMENIA	1	376		
BELGIUM	7	5712		
BRAZIL	2	1855		
BULGARIA	6	3538		
CANADA	14	9998		
CHINA	3	2167	7	6420
TAIWAN	6	4884	2	2560
CZECH REPUBLIC	5	2569	1	912
FINLAND	4	2656		
FRANCE	59	63073		
GERMANY	19	21122		
HUNGARY	4	1755		
INDIA	14	2503		
IRAN			2	2111
JAPAN	53	43491	4	3190
KOREA, REP. OF	16	12990	4	3820
LITHUANIA	2	2370		
MEXICO	2	1360		
NETHERLANDS	1	449		
PAKISTAN	2	425		
ROMANIA	1	650	1	650
RUSSIA	29	19843	3	2825
SOUTH AFRICA	2	1800		
SLOVAKIA	6	2408	2	776
SLOVENIA	1	676		
SPAIN	9	7512		
SWEDEN	11	9432		
SWITZERLAND	5	3192		
UNITED KINGDOM	35	12968		
UKRAINE	13	11207	4	3800
UNITED STATES	104	97411		
WORLD TOTAL*	**438**	**351,327**	**31**	**27,756**

*This total includes Taiwan, China where six reactors totaling 4884 MWe are in operation. Two units (2650 Mwe) are under construction.
Table reflects status as of April 2001 as reported to the IAEA.

NUCLEAR SHARE OF ELECTRICITY GENERATION

as of April 2001 (%)



Note: The share of nuclear generation in 2000 was 23.64% in Taiwan, China.

*Estimates

READERS RESPOND

REPORT ON THE READERSHIP SURVEY OF THE *IAEA BULLETIN*

Publishing and technology developments are influencing directions for outreach and the exchange of information, especially in electronic forms.

Insights from the latest reader survey of the *IAEA Bulletin* may be indicative of the changing times. Replies from more than 5000 respondents shed light on the rapid pace of developments in communications technology -- and the enduring attraction of a printed magazine.

- More that half of all questionnaire respondents worldwide answered the questions on line and sent their replies electronically using the Internet.
- Three of every four respondents reported having regular access to electronic mail, including 46% of Chinese respondents, 58% of French respondents; 71% of Russian respondents, 77% of English respondents, and 83% of Spanish respondents.
- All told, 68% of respondents have regular access to the Internet and World Wide Web, including 48% of Chinese respondents, 57% of Russian respondents, 59% of French respondents, 70% of English respondents, and 75% of Spanish respondents.
- Despite access to the Internet, the majority of respondents across all language groups – 66% — prefer to receive the *IAEA Bulletin* in printed form. Only 3% would want to receive it only in electronic form via the Internet, while 29% would like to receive it in both electronic and print forms.

These and other findings should be regarded as indicative only. In seeking the views of all recipients on the mailing list, the *IAEA Bulletin* survey followed a census approach, rather than a more statistically grounded sampling approach of selected recipients. Main objectives were to update the journal's mailing list and obtain demographic information from respondents about their fields of expertise, interests, and professions, while affording them an opportunity to send their views and opinions. Many took time to write pages of comments, both critical and complimentary.

Survey questionnaires were included in the *IAEA Bulletin* during the period July 1999 and March 2000, and additionally were provided on the Internet in English, French, and Spanish for electronic completion and submission. Questionnaire responses, plus additional letters and address forms, were received and tabulated through May 2001.

The questionnaire in printed form was distributed to just over 16,000 recipients of the *IAEA Bulletin* editions in each of its five publishing languages – Chinese, English, French, Russian, and Spanish. Just over 5100 readers, or 31%, took time to answer and send back the full questionnaire, which the survey firm considered a good rate of return. *(See table.)* Another 1978 respondents sent letters or returned forms only to update their mailing addresses. The cumulative number of 7078 respondents represented a 43% rate of return.

Conducting the survey was Bisconti Research, Inc., a communications firm based in Washington, DC, with extensive experience in the field. The following highlights are from the firm's report of its major observations and findings.

Core Readership. Findings show that the *IAEA Bulletin* has a core readership for which the periodical is important, needed, and well read. For its established and largely professional readership, the *IAEA Bulletin* has an opportunity to play an increasingly important role as an information portal in support of technology transfer, nuclear and radiation safety, and nuclear safeguards and verification.

The *IAEA Bulletin* has four main audiences—nuclear scientists and engineers, policy

and planning experts, communicators, and decision-makers. Some individuals are in more than one audience. Nuclear scientists and engineers working in government laboratories or agencies, educational institutions, and the nuclear industry are by far the largest audience, but there also is a strong policy and planning constituency.

The breakdown shows the following "core groups". *(See the table for more detailed information.)*

- *nuclear scientists and engineers* — those working in research and development, laboratory science and measurements, engineering, regulation, health professions, and students; about three-fourths of all respondents identified themselves as being in this grouping;
- *policy and planning experts* — those working in energy and environmental policy, government, financial or economic analysis, and law; about a third of all respondents identified themselves as being in this grouping;
- *communicators* — those working in or with the press or media, and marketing or public relations; about 9% of respondents identified themselves as being in this grouping;
- *decision-makers* —those elected or appointed to office, including legislators; about 6% of respondents identified themselves as being in this grouping.

Value/Usefulness. Readers value the *IAEA Bulletin*—and consider it a trustworthy source of information, written at the appropriate technical level. A high percentage of all respondents -- 92% -- rated it good or excellent as an accurate source of information.

Readers circulate and share the *IAEA Bulletin* among colleagues, reaching a large segment of the world nuclear community. On average, seven people in addition to the recipient read each issue.

Three of every five respondents, or 60%, say they are in-depth readers, and the

IAEA BULLETIN QUESTIONNAIRE

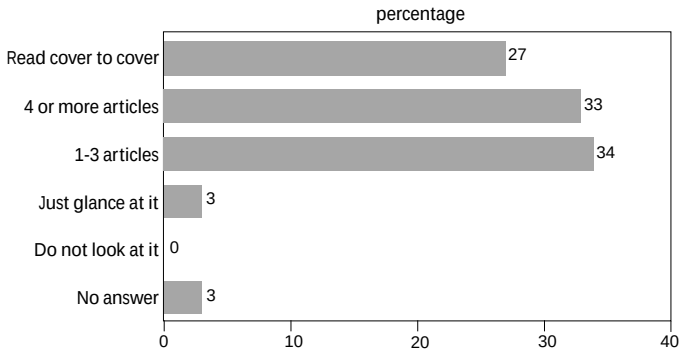
Questionnaires Sent and Completed	Total Mailed	Total Returned*	Response Rate
Total	16,321	5,106	31%
Chinese Edition	1,000	122	12%
English Edition	9,636	3,497	36%
French Edition	1,655	401	24%
Russian Edition	2,717	513	19%
Spanish Edition	1,313	573	44%

* Includes replies received by post and over the Internet using the on-line questionnaire. The table includes only the number of respondents who completed and returned the full questionnaire. In addition, 1972 recipients replied by letter or survey form only to update their mailing addresses.

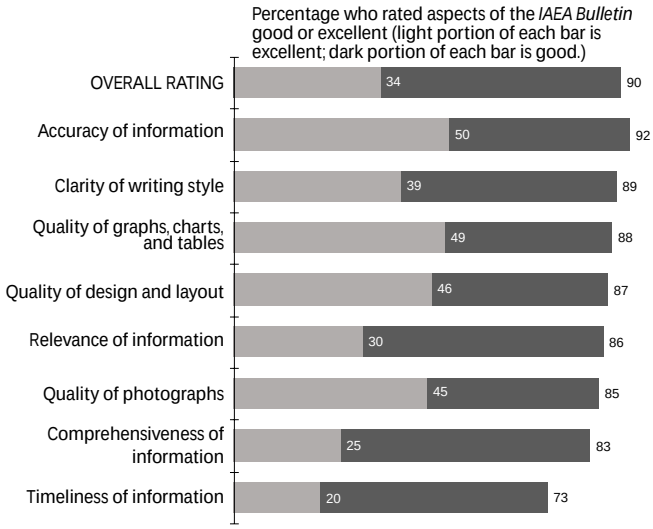
SAMPLE COMPOSITION OF RESPONDENTS TO THE FULL QUESTIONNAIRE

	Number	Percentage
Total	5,106	100
Language Group		
English	3,497	69
Spanish	573	11
Russian	513	10
French	401	8
Chinese	122	2
Place of Work		
Government institute/laboratory	1,633	32
College, university, or schools	1,529	30
Nuclear industry	1,101	22
Government ministry/agency	1,050	21
Consulting firm	614	12
Non-governmental organization	550	11
Self-employed	335	7
Agency in the UN system	286	6
Not working, retired	268	5
Student	244	5
Inter-governmental organization	235	5
News organization/press office	181	4
Other	309	6
Most Recent Job		
Research & Development	2,447	48
Laboratory science/measurements	1,479	29
Nuclear engineering	1,243	24
Environmental policy	951	19
Regulatory work	793	16
Energy policy	758	15
Government agency staff—non-regulatory	677	13
Health professions	612	12
Elected or appointed official, legislator	315	6
Press/media	275	5
Marketing or public relations	236	5
Student	239	5
Financial or economic analyst	172	3
Lawyer	110	2
Other	615	12

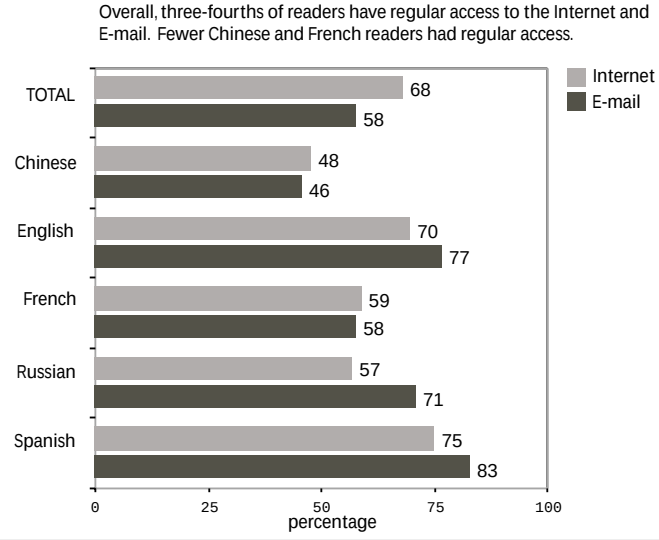
"How much of each *IAEA Bulletin* edition do you usually read?"



Please rate each aspect of the *IAEA Bulletin*…"



E-mail and Internet Access



majority of respondents actively use information they find in the periodical.

The *IAEA Bulletin* fills a valuable niche for nuclear professionals worldwide. Readers consider it an important source of knowledge. The findings suggest that the *IAEA Bulletin* contributes to the work of nuclear professionals in the same way that respected technical journals contribute to the work of professionals in other fields.

The periodical keeps readers informed and current about their profession and about IAEA programmes, and for three-quarters of readers it becomes part of their reference library.

The *IAEA Bulletin* is especially important to readers in developing countries, the survey found. Response rates were particularly high from recipients of the Spanish edition in the Latin American region.

Topics/Interests. Readers across linguistic and political boundaries are interested in similar topics, especially nuclear and radiation safety. Topics of greatest interest include:

- *nuclear and radiation safety* — over 65% of all groups;
- *nuclear sciences and applications; waste management, disposal; nuclear power and the fuel cycle* — over 50% of all groups;
- *environmental applications; comparative energy studies* — over 40% of all groups;
- *nuclear law and regulations; health and medical applications; industry applications; security of nuclear materials, physical*

protection — over 30% of all groups;

■ *nuclear safeguards, non-proliferation; sustainable development; nuclear physics, fusion* — over 20% of all groups;

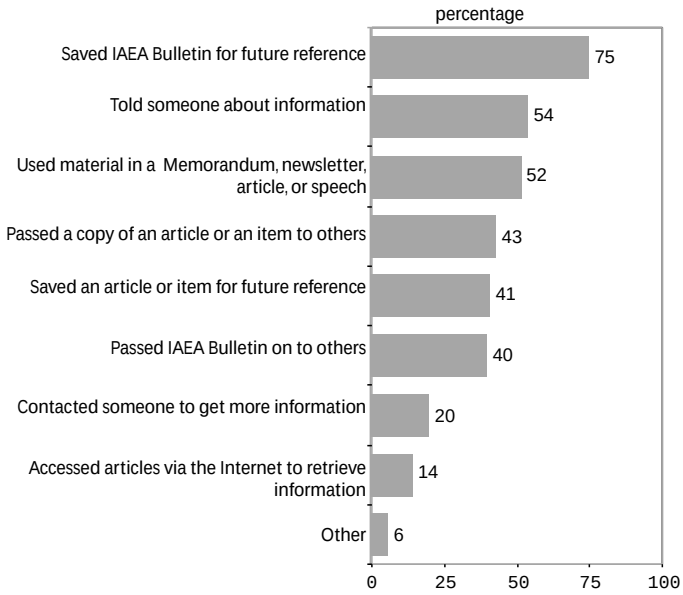
■ *food and agriculture applications; hydrology, water applications* — over 10% of all groups.

Readers especially like short items with information on where to get more details. This finding suggests the potential for developing the *IAEA Bulletin* as a key portal in the world network of technical nuclear information.

Editorial Coverage. Although readers find update information most useful, many want to read in-depth analysis of current and emerging issues, technical or scientific papers by scientists, and documentation and trends. Altogether, 54% would like to see in-depth analysis of current and emerging issues, 51% would like technical or scientific papers from scientists, and 47% would like documentation of achievements and trends in nuclear applications and safety.

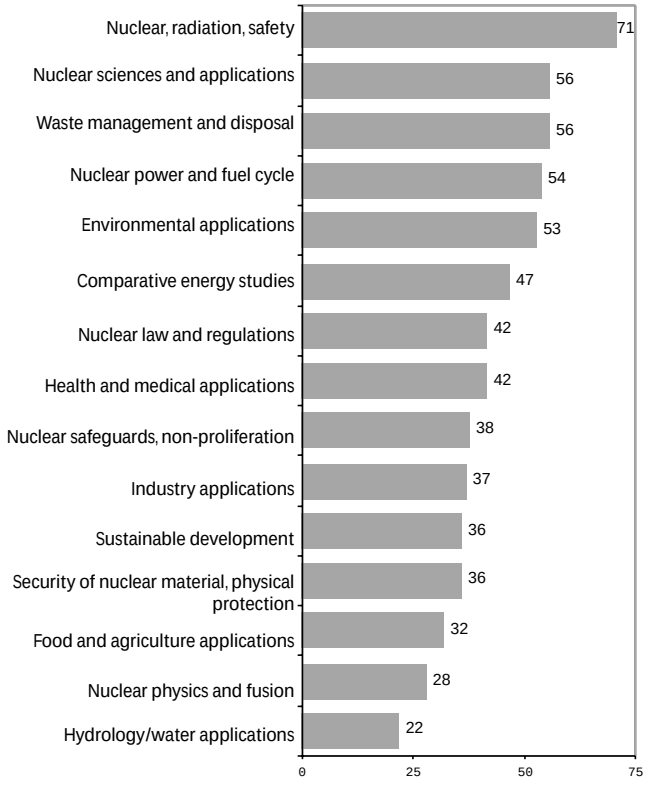
Fewer readers were interested in reports on non-IAEA projects, feature articles written for non-technical audiences, or editorial viewpoints. About a third — 32% — would like reports on non-IAEA projects, 31% would like to see feature articles written for non-technical audiences, and 30% would like to hear editorial viewpoints by different stakeholder groups. Readers believe the *IAEA Bulletin* should give high priority to IAEA programmes and project information and global reviews; medium priority

"Please check all the ways you have used the *IAEA Bulletin*."



A higher percentage of those working in a news organization or a press office reported using material from the IAEA Bulletin in a memorandum, newsletter, article, or speech (67%); and a higher proportion said they had contacted someone to get information about something they had read (37%).

"Check topics that interest you most."



to national and regional activities, case studies, and cooperation; and medium to low priority to IAEA structure and administration.

Internet Access. Although there are some country variations, most readers have access to both to E-mail and the Internet — more than half of all respondents worldwide (53%) responded to the *IAEA Bulletin* survey by completing the questionnaire posted on the Internet and returning it on line. Even so, majorities — across language groups — prefer to receive the *IAEA Bulletin* in printed form. About two-thirds prefer to receive the *IAEA Bulletin* in printed form (29% said both printed and on the Internet, 3% said Internet only).

Three-fourths have regular access to E-mail (46% Chinese readers, 77% English, 58% French, 71% Russian, 83% Spanish). Sixty-eight percent have regular access to the Internet (48% Chinese readers, 70% English, 59% French, 57% Russian, 75% Spanish).

Areas for Improvements. Although the *IAEA Bulletin* rates at least "good" on all measures covered in the questionnaire, there is room for improvement in all areas, particularly in timeliness, comprehensiveness, and relevance of information.

Only 20% rated the *IAEA Bulletin* "excellent" on timeliness, likely related to mailing times and delays.

Only 30% rated the *IAEA Bulletin* "excellent" on relevance, possibly related to the thematic nature of each edition.

Only 25% rated the *IAEA Bulletin* "excellent" on comprehensiveness. As noted earlier, about half of respondents said they would like to see in-depth analysis of current and emerging issues, technical or scientific papers from scientists, and book reviews.

About one of every four respondents, or 26%, offered additional written suggestions for improving the *IAEA Bulletin*. Suggestions mainly covered:

- *Topics* (9%), with greater coverage requested for such subjects as radiation safety, nuclear applications, high-level waste, radiation protection, and the benefits IAEA is providing to Member States.
- *Coverage and approach* (9%), such as more scientific and technical articles with solid and conclusive findings; increased coverage of Latin America, developing nations; more timely information; more short summaries; more critical opposing viewpoints; and more comparative information on nuclear and other energy sources.
- *Networking and resources* (3%), such as adding author addresses, e-mail contacts, and web sites; providing more information about seminars and symposia in advance; more references to articles; and more opportunities for input from readers.
- *Design and layout* (2%), such as more graphics and tables; more photographs; and accessibility of the periodical on the Internet.
- *Other* (7%), such as reducing delays in the timely receipt of the *IAEA Bulletin*; broader scope of articles; improved layout; and more frequent reports from non-IAEA members and public contributors.

Scope. The study of the *IAEA Bulletin* provides insights about attitudes and interests of current readers. The study does not allow conclusions about interests of potential new audiences, such as opinion leaders or civil society groups.

Postscript. The *IAEA Bulletin* survey replies will help to update the IAEA's mailing list for the periodical, as well as for other information products covering specific fields of interest. Information obtained through the survey is assisting efforts to more effectively distribute information to recipients most interested in a particular topic or field, and to deliver it in more timely fashion.

The many comments and suggestions received are helping in ongoing reviews of public information and outreach activities to the Agency's core and emerging audiences. In line with developments in print and electronic publishing and distribution, readers can be served in ways more useful to them and more efficient for organizations. The *IAEA Bulletin*, in both print and electronic forms on the Agency's frequently updated *WorldAtom* Internet site, can benefit from the views and responses the survey generated.

Many thanks to all the readers who took the time to send their opinions and comments to us during the survey period – and in the weeks and months thereafter. We will keep working to meet your needs and interests as best we can.—*Lothar Wedekind, Chief Editor, IAEA Division of Public Information.*