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# Update on ITER and other Recent Events

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**Fusion Energy Sciences**  
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## ITER Status

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I have just returned from a meeting of the Interim ITER Council (IIC), ITER's governing board, held in Tokyo.

The Interim Council is in place until the ITER Agreement enters into force by late summer/early fall. Russia and China are the remaining parties to complete their ratification process. Russia will be done within weeks and China is expected to be complete by the end of August. (See chart on next page.)

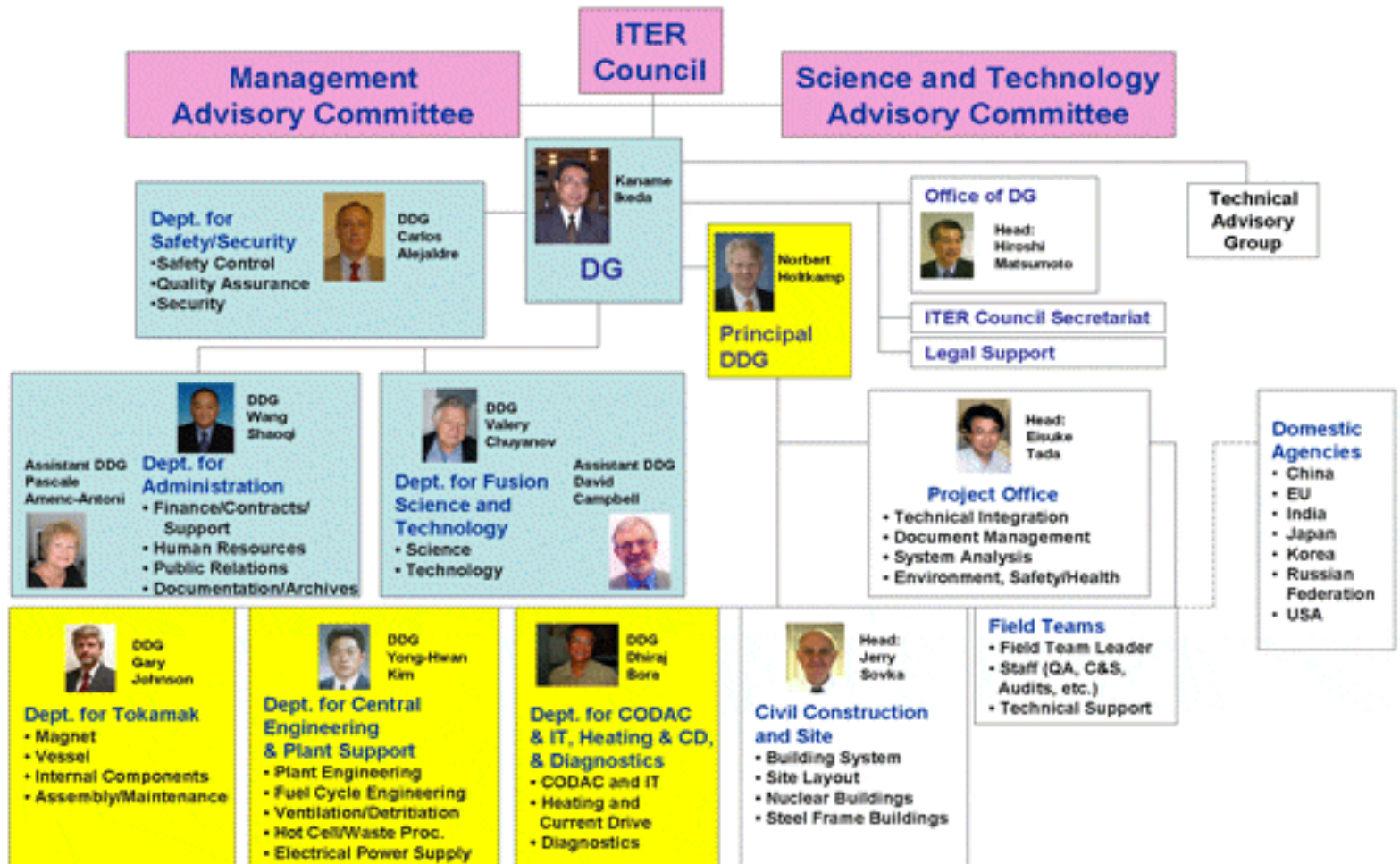


# ITER Ratification and Domestic Agencies

Party	Ratification	Domestic Agency
China	August 24 anticipated	TBD
EU	Completed.	Approved, but will not be operational before 2008.
India	Completed.	July/August
Japan	Completed.	JAEA designated to be the Domestic Agency.
Korea	Completed.	Expected in August
Russia	Agreement to be signed by President Putin within weeks.	Kurchatov Institute to be designated -- expected by August.
US	Completed. Privileges and Immunities (P&I) will only outstanding issue. US will extend P&Is shortly after entry into force of the ITER Agreement	U.S. ITER Project Office established July 2004.



# ITER Organization Chart





# ITER Status

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The Interim Council made significant progress on numerous fronts:

- Approved the staffing plan for ITER.
- Agreed to explore how to proceed on Test Blanket Modules (more later)
- Approved the draft site support agreement and the Headquarters Agreement.
- Endorsed a draft agreement with CERN as a basis for discussions on technical cooperation with CERN – primarily metrology and cryogenics.
- Approved a Financial Audit Board and agreed to submit nominees to that board.
- Established Terms of Reference for the Management Advisory Committee (MAC) and the Science and Technology Advisory Committee (STAC) and meetings tentatively scheduled (more later).
- Agreed that the Members should continue to provide voluntary support for Design Working Groups (more later).

We made progress in Test Blanket Modules (TBMs) – we have a path forward that keeps the U.S. “in the game” as we assess the overall science and technology, legal framework, cost sharing scenario, and benefits of the TBM program.



## ITER MAC and STAC

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The Interim Council received the report of the MAC from the meeting chaired by Robert Lotti in May. He and the MAC members did an excellent job.

The MAC and STAC will play a critical role in assisting the Council and ITER Management to ensure sound project management and a secure scientific and technical footing.

The MAC and the STAC will meet in the September/October timeframe -- before the meeting of the ITER Council on November 27-28. This meeting of the Council will be the first official ITER Council Meeting following entry into force.



## ITER Issues

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We are fully engaged in the Design Working Groups and the design work needed to complete the technical specifications in the Hardware Procurement Arrangements, and I reiterated our commitment to these critical efforts last week. Once the Design Review concludes – hopefully in November – we should have an updated ITER Baseline Design and a better idea of the Integrated Project Schedule.

The Director General needs to develop an effective, detailed Project Plan. It must be consistent with the Agreement, but more specifically it must comprehensively define the roles, responsibilities, and authorities of the various elements of the ITER Organization – including the Council, Departments and Offices within the IO, and the Domestic Agencies.

I stressed the importance of strong financial and project management for ITER, which is critical given scope and complexity.



## Status of the FY 2008 Budget

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The House Energy and Water Development (HEWD) Appropriations bill has passed the House Appropriations Committee. FES received \$427.85M, the same as in the President's request, an increase of \$108.9M over FY 2007. The Committee redirected all of the funding from the HEDLP joint program, effectively eliminating the program.

The Senate Energy and Water Appropriations Bill also funded the full FES request but included full funding for the FES' part of the HEDLP joint program \$12.281M.

FES is fully participating in the President's ACI increase – ITER is an important part of the ACI, but we must have an appropriate plan for the roll-off.

Overall, the Office of Science has fared well in the top line of both House and Senate versions. We await the outcome passage in both chambers and the results of the Conference. HEWD has approved \$4.514B for SC in FY 2008, an increase of \$716.8M over FY 2007. SEW has approved \$4.497B, an increase of almost \$700M.





# Status of the FY 2008 Budget

## Office of Science

### FY 2008 Funding Status

(budget authority in thousands of dollars)

	FY 2007 Approp.	FY 2008					
		Request	Req. vs. 07	House	House vs. 07	Senate	Sen. vs. 07
Basic Energy Sciences	1,250,250	1,498,497	+248,247	1,498,497	+248,247	1,512,257	+262,007
Advanced Scientific Computing	283,415	340,198	+56,783	340,198	+56,783	334,898	+51,483
Biological and Environmental	483,495	531,897	+48,402	581,897	+98,402	605,320	+121,825
High Energy Physics	751,786	782,238	+30,452	782,238	+30,452	789,238	+37,452
Nuclear Physics	422,766	471,319	+48,553	471,319	+48,553	471,319	+48,553
Fusion Energy Sciences	318,950	427,850	+108,900	427,850	+108,900	427,850	+108,900
Science Lab Infrastructure	41,986	78,956	+36,970	151,806	+109,820	88,956	+46,970
Science Program Direction	166,469	184,934	+18,465	178,290	+11,821	184,934	+18,465
Workforce Development	7,952	11,000	+3,048	11,000	+3,048	11,000	+3,048
Safeguards and Security	70,225	70,987	+762	70,987	+762	70,987	+762
<b>Total, Science</b>	<b>3,797,294</b>	<b>4,397,876</b>	<b>+600,582</b>	<b>4,514,082</b>	<b>+716,788</b>	<b>4,496,759</b>	<b>+699,465</b>



# High Energy Density Laboratory Plasmas (HEDLP) Program

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FES and NNSA have set up a coordinated joint program in HEDLP. The first request for funds is contained in the President's FY 2008 Budget.

This joint program will help us explore areas of HEDLP and energy-related HEDLP leveraging facilities and expertise funded by NNSA and FES.

FES and NNSA are reviewing the results of the National Academy's *Plasma 2010* report and will keep those findings very much in mind as we proceed.

Let me add that HEDLP and the entire field of High-energy Density Physics (HEDP) are a very high science priority for DOE.



# Final Thoughts

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Ray Fonck spoke to you about challenges for the program, including starting to develop a new strategic plan for the fusion program. I trust and support Ray in this enterprise.

The Program must have an understanding of what it must achieve to get fusion power on the Grid – the first step is the charge you were given in April:

“To assist planning for the ITER era, it is critical that FESAC identify the issues arising in a path to DEMO, with ITER as a central part of that effort. Therefore, I ask that FESAC 1) identify and prioritize the broad scientific and technical questions to be answered prior to a DEMO; 2) assess available means (inventory), including all existing and planned facilities around the world, as well as theory and modeling, to address these questions; and 3) identify research gaps and how they may be addressed through new facility concepts, theory and modeling.”

To make progress and achieve success, we must begin planning now and think of the Nation’s interest in assessing the broader fusion program.